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POLICY LEVEL INFORMATION ON LOGISTICS-ORIENTED RESEARCH.(U)
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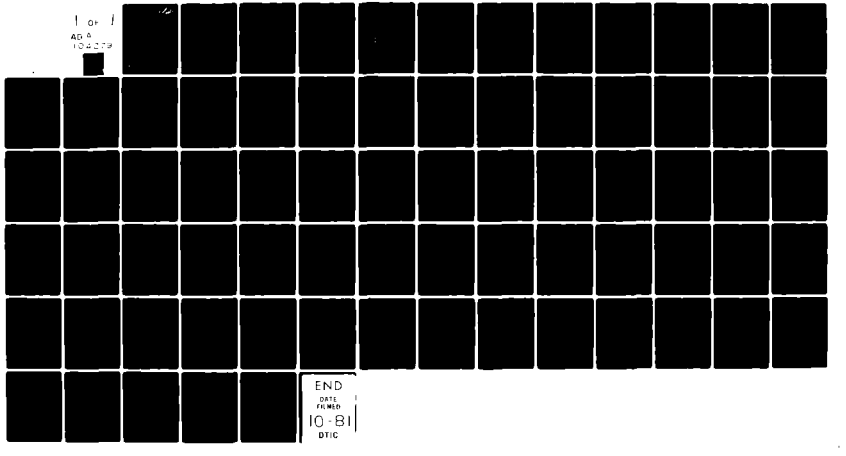

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POLICY LEVEL INFORMATION ON LOGISTICS-ORIENTED RESEARCH

August 1980

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EXECUTIVE SUMMARY

LOGISTICS RESEARCH PLANNING NEEDS

To improve the operations and management of the logistics system and the application of logistics resources, the DoD sponsors a broad and diverse program of logistics-oriented research. However, the planners and managers responsible for this program do not, at present, have adequate tools to assist them with the decisions they must make.

Available information about DoD's logistics research program is oriented more towards researchers' needs than towards those of planners and managers. Further, existing data systems do not provide for collecting, processing, and summarizing the information useful for planning. Thus, it is difficult to determine whether adequate research is being planned and conducted, and whether the results are being effectively utilized to increase mission effectiveness and reduce support costs.

What is needed is an enhanced capability for logistics research planning and management, based on the following four building blocks:

- A formal planning process that establishes goals, identifies the research projects to meet those goals, and scopes resource requirements for logistics research according to DoD issue and problem priorities.
- An organized resource base that identifies and associates funding dollars by source, type of research, sponsor, and research organization.
- A research framework that relates logistics studies and research to DoD missions, logistics functions and weapon systems.
- An information system that collects, stores, retrieves, aggregates, and reports data in a manner tailored to the needs of logistics planners and managers, as well as researchers.

While it is important to develop all four building blocks, the information system should be implemented first to facilitate development and use of the other three.

The design for the information system should include the following:

- A formal procedure for ensuring the validity of project data.
- A formal procedure for following up on completed research to determine what benefits are realized.
- A data collection process which draws upon existing systems to avoid duplication of effort.
- Flexible inquiry and retrieval procedures.
- Summary information designed for the needs of planners and managers, in addition to detailed information designed for use by logistics researchers.

LORI SYSTEM DESIGN

A prototype design for a Logistics-Oriented Research Information (LORI) system has been defined in response to the above requirements. The LORI system will give OSD, Service headquarters, and the DoD logistics community the ability to organize and tabulate logistics studies and research by a variety of characteristics, including research need and purpose, performing organization, sponsoring organization, technical approach, schedule, status, functional area, payoff, and cost. Flexible inquiry and reporting formats will ensure that LORI's products are tailored to user needs.

Under the LORI system, logistics research and study efforts are classified according to a hierarchy of logistics-oriented issues. This hierarchy, by incorporating the judgments of logistics planners and managers, will serve as a research framework to facilitate planning.

LORI initially will cover only research that can be readily identified under the existing DoD funding structure and Defense Technical Information Center (DTIC) procedures. As the system is refined and further developed, more information will be added to the system and an organized resource base will be achieved.

The LORI design builds on and expands the existing capabilities of both DTIC and the Defense Logistics Studies Information Exchange (DLSIE). DTIC maintains information systems covering all types of research, DoD-wide. The DLSIE system contains logistics-related research information, which it disseminates in ways tailored to particular user needs.

DLSIE already uses DTIC as a primary input source; the LORI design assures continuing close coordination between the two organizations and avoids duplication of effort and resources. DLSIE's existing capability to provide customized reports will be further enhanced to provide the types of retrievals and tabulations available from LORI. In addition, the data quality control procedures now used by DLSIE will be strengthened.

Figure S-1 illustrates the basic design components for LORI and highlights the important system inputs, inquiries, and outputs. The "community of information systems" block reflects the integration of the LORI concept into DTIC and DLSIE operations.

LORI DATA COLLECTION PROCEDURES

A key feature of the system is a revised data collection form, intended to replace both the DD 1498 (Research and Technology Work Unit Sumamry) and the DD 1634 (Research and Development Planning Summary). The revised form contains three sections:

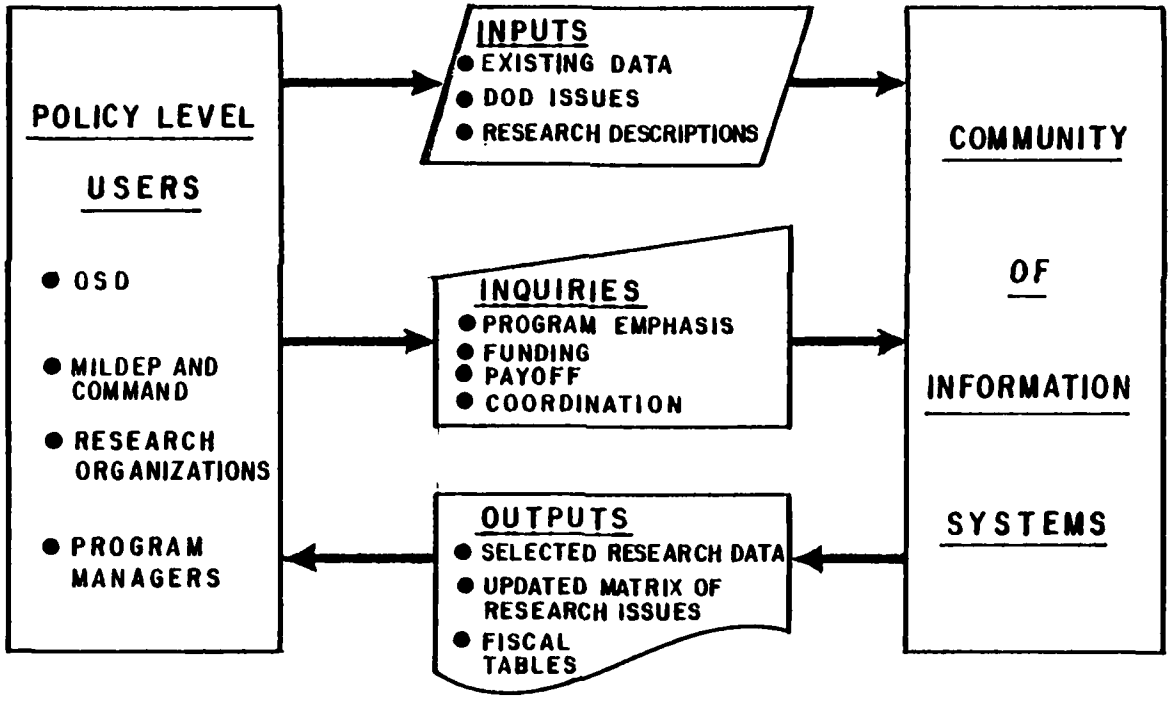
(1) An administrative section, comparable to those of the existing forms, but with additional information on funding, participating organizations, and reports produced. These additions will make the funding structure clearer, facilitate data verification and validation, and provide references to more detailed project documentation.

(2) A narrative section, which replaces the existing general narrative paragraphs with 13 specific questions. This new format will provide concise project summaries in a form managers can use, and facilitate the identification and tracking of research payoffs.

(3) A checklist to indicate applicable research descriptors and relevant DoD issues.

FIGURE S-1

LOGISTICS – ORIENTED RESEARCH INFORMATION SYSTEM CONCEPT



FUTURE IMPLEMENTATION OF LORI

The first phase of the development of LORI, consisting of a requirements analysis and system definition, has been completed.

The second phase will identify changes necessary to integrate LORI into DLSIE operations, to reduce DLSIE's clerical workload through improved automation, to enable DLSIE to handle LORI processing, and to define the relationships between DLSIE and DTIC that will avoid redundancy. Necessary hardware and software support will be specified.

The third phase will consist of full implementation and documentation of the LORI system, including data entry, report generation, and query procedures.

PREFACE

This report is intended to introduce the Logistics-Oriented Research Information (LORI) system to the logistics community, demonstrate its potential, and recommend its implementation. It should be useful to managers of systems which monitor and report logistics research information and to the policy analysts who rely on such systems to assist their decision-making.

We would like to express our appreciation to Mr. Frederick A. Hamden and Mr. William C. Reade of DLSIE for their assistance in testing and refining this prototype LORI system design.

We also want to acknowledge the important contributions of Lt. Col. Robert Nemetz, OASD(MRA&L), to both the content and form of this report.

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I. INTRODUCTION

STATEMENT OF THE PROBLEM

Logistics affects or controls essentially all DoD operating and support investment resources, which account for approximately 40 percent of recent DoD budgets. For this reason, there is a substantial body of research and studies related to logistics,* as well as numerous ongoing programs, both inside and outside DoD.

JCS Pub. 1** defines logistics as the science of planning and carrying out the movement and maintenance of forces. In its most comprehensive sense, logistics encompasses the following aspects of military operations:

- Design and development, acquisition, storage, movement, distribution, maintenance, evacuation, and disposition of materiel.
- Movement, evacuation, and hospitalization of personnel.
- Acquisition or construction, maintenance, operation, and disposition of facilities.
- Acquisition or furnishing of services.

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* In this study we use the terms research and studies somewhat synonymously, mainly because the kind of information needed to describe those activities, and to monitor their effects, is essentially the same. We note that the terms are distinguished in DoD guidance in terms of scope and product. For example, DoD Directive 5010.22 defines studies and analysis as:

> . . . Those nonrecurring examinations of a subject undertaken to provide greater understanding of relevant issues and alternatives regarding organizations, tactics, doctrine, policies, force plans, strategies, procedures, intelligence, weapons selection and mix, systems, programs, or resources, and leading to conclusions and recommendations contributing to planning, programming, budgeting, decision-making and policy development including those studies initiated by or for the program management office. It also includes research and development of related data base structures and models for the support of studies and analysis.

And, the JCS Pub 1 defines research as all effort directed toward increased knowledge of natural phenomena and environment and toward the solution of problems in all fields of science. This includes basic and applied research.

**Department of Defense Dictionary of Military and Associated Terms, The Joint Chiefs of Staff, Washington, D.C. 20301, 3 September 1974.

The body of logistics-related research and studies is extensive because of the generic and virtually all-encompassing nature of the logistics process, and the direct and indirect impacts of logistics system performance and products on weapon systems and defense missions. In addition, R&D and O&M budgets are used to fund military in-house and contracted logistics research, and a significant amount of logistics research is carried out by industry using IR&D funding.

DoD should be able to understand and to quantify how this research can increase the cost-effectiveness of its logistics efforts and their contribution to mission effectiveness. However, there is no overall system for giving this research visibility. DoD does not know, with reasonable accuracy, how much is being spent, what research is being carried out and by whom, and what tangible benefits have accrued, if any. In addition, most of the available information is oriented toward the needs of logistics researchers, and, in general, is not helpful for logistics-research policy decisions. Finally, the lack of timely, relevant, and concise information in a useful format seriously constrains the development of an effective DoD logistics-research planning process.

Specifically, these information-related problems include the following:

- Reported data are inconsistent.
- Not all relevant research is covered.
- Some information is outdated.
- Responses to both ad hoc information requests and formal inquiries, by research agencies, rarely have the proper coverage; responses are usually either too voluminous or obviously incomplete.
- Documentation of research payoffs is very limited.
- Documentation of the need for the research is not adequate.
- Data are not aggregated properly for policy-level requirements.

- Linkages between research topics and DoD issues are not described.
- Tracking of research funding is impossible.

STUDY OBJECTIVES AND RESULTS

The goal of this study is to design the Logistics-Oriented Research Information (LORI) system to assist the Office of the Secretary of Defense and the Military Departments to review, monitor, and plan logistics research. LORI has been designed to eliminate the barriers to the effective planning and management of logistics research outlined above.

This report represents the results from our preliminary, or Phase 1, analysis, conducted from April 1979 through February 1980. Phase 1 objectives and results include:

- A prototype design of LORI, including definitions of user requirements, a policy-level logistics-research subject dictionary, candidate output products, and source input data.
- An understanding of the relationship between LORI and the Research and Development Information System (RDIS), for manpower and personnel research data, under development at the Naval Personnel Research and Development Center (NPRDC), San Diego.
- An analysis of the relationship between the prototype LORI design and the current Defense Logistics Studies Information Exchange (DLSIE) structure.
- Recommendations of basic changes to improve DLSIE.
- A vehicle for soliciting support and participation from the logistics community for the eventual design and implementation of LORI.
- Specification of an initial implementation strategy for LORI.

Two additional design phases will be required to implement LORI fully. The objectives of Phase 2 of the LORI design, not dealt with in this study, are to specify the extensions needed in DLSIE to increase its usefulness as a logistics policy and research management information system, and to assure its compatibility with RDIS and DTIC. Required changes to the DLSIE input forms, information processing system, and outputs should also be defined. A

particular emphasis will be the specification of the computer hardware and software required by DLSIE to satisfy LORI user requirements. (Negotiations on-going with DTIC could resolve the hardware specification problem.)

The objectives of Phase 3 will be to prepare and present, to potential major users, descriptive material on system design, user/operator guidelines, and general information processing logic; and also to revise the design where necessary to ensure acceptability and use of the system. Implementation procedures will be specified for those changes to DLSIE operations recommended in Phase 2.

SCOPE OF PHASE 1

Our focus in Phase 1 is on the definition of user requirements and the design of a supporting information system. That design necessarily implies a total logistics research planning system, which will require additional analysis for its complete development. We will note all the necessary building blocks for such a system in this report.

Essentially, Phase 1 consists of:

- A user requirements analysis based on interviews, literature surveys, and a review of existing information systems/services that are used to support logistics research.
- An experiment, carried out at DLSIE, to help establish a base case definition and to evaluate candidate data collection and procedural changes.
- The development of the prototype information system design.

We used DLSIE as the starting point in our design efforts because it is a dedicated resource whose mission is to assist the logistics research and study community.

Our recommended implementation strategy uses multiple stages, with the first consisting of a basic upgrading of the existing DLSIE capability. We feel this is the most timely way to provide a more comprehensive and useful

planning and management tool for OSD and Service staffs, as well as the rest of the logistics community. Accordingly, Phase 1 was designed to satisfy the following conditions: (1) implementation is feasible under current DoD research and studies reporting procedures (i.e., 1498s/1634s); (2) the DLSIE staff can perform the new or modified requirements; (3) the basic data requirements can be made compatible with the NPRDC Research and Development Information System (RDIS); (4) the information requirements can be modified to accommodate DTIC's participation in subsequent implementation stages; and (5) the design is acceptable to the logistics community.

REPORT ORGANIZATION

Chapter II discusses the essential user requirements for logistics research planning and management, the concept of goals and issues for planning, and a candidate set of major and secondary DoD logistics-related goals. The goals are fundamental to the prototype information system design and, as well, provide the unifying theme upon which to organize logistics-related research and studies. Chapter II also discusses the general nature of DoD mission-performance and logistics-related benefits that can be expected to accrue as a consequence of enhanced information being made available in a pertinent and timely manner.

Chapter III presents the recommended prototype information system design which, when fully implemented, will produce the essential information for planners and managers of logistics research, and hence contribute toward the achievement of the study goal. The basic functions and structure of the information system are specified.

Chapter IV describes the base case--the contemporary setting and its associated information-constrained logistics research planning and management. The base case description is organized to reflect the current capabilities for

each of the functions and structural components used to specify, in Chapter III, the recommended information system design.

Chapter V discusses the implementation plan which indicates how to proceed from the current base case capability to the recommended design. A multi-stage implementation is recommended.

Appendix A describes the DLSIE experiment with the revised data collection forms prepared in Phase 1 of this study.

Appendix B presents the proposed revisions to DoD Instructions 5154.19 that were prepared in Phase 1 of this study. That instruction establishes the DLSIE organization and specifies its roles and responsibilities.

Appendix C contains definitions for the research project descriptors used in the prototype project data form (1498R/1634R).

II. LOGISTICS RESEARCH PLANNING AND MANAGEMENT REQUIREMENTS

BUILDING BLOCKS FOR LOGISTICS RESEARCH PLANNING

Unavailable and/or imperfect information is only one of the constraints on an effective DoD logistics-research planning process. Indeed, what is required is a planning system that prescribes needed resources, decision processes, and organizational roles and responsibilities. The following four items are, we believe, the essential building blocks for such a system.

1. A formal planning process that identifies explicitly logistics research needs as a function of DoD goals/issues, develops and updates the logistics-related issues, addresses the adequacy of the available information, fosters and monitors the effective transfer of results, establishes and maintains inter-Service dialogue to coordinate logistics research programs, and minimizes the burden on reporting agencies. The objective of this planning process is to generate, within fiscal constraints, that mix of research and studies which offers the greatest potential for improving DoD mission effectiveness and reducing life cycle costs. Within OSD and the military departments, specific roles and responsibilities should be identified and assigned to implement this formal process.

2. An organized resource base that logically identifies and associates funding dollars by source, type, and sponsoring and research organization with the logistics research area. The objective of this organized resource base is to provide visibility for the aggregate resources used to support logistics research and to assist in identifying requirements for additional resources.

What is needed is a system of selective program elements similar to those for Training and Personnel Technology. There, the funding amounts for

some 30 program elements can be combined to provide an aggregate picture of the entire research effort. In contrast, the funding for logistics research is distributed among numerous program elements (both RDT&E and O&M), and is not readily identified or aggregated.

In addition, a description of the nonfinancial resources utilized for logistics research should also be prepared. Knowledge of personnel resources or computer facilities available to logistics research efforts would be helpful to planners and managers.

3. A research framework, that relates logistics resources, and in turn logistics research, to the broader structure of DoD missions. Historically, logistics research has been predominantly equipment-oriented; now, more logistics research with a mission, weapon system, force, or theater orientation is needed. Models and studies with this broader focus have been more prevalent in recent years, and such work should be encouraged. These efforts are necessary for the development of a system-wide perspective on the role of logistics and logistics research.

The set of DoD goals/issues included for the formal planning process, and the set of research descriptions included as part of the information system design, are both small first steps in the direction of a research framework. The combination of a readiness vocabulary and an approach for categorizing readiness-related research, as described in LMI report ML913, A Concept for the Management of Readiness, can be considered as a second step. However, the research framework must provide an explicit, comprehensive, system-wide perspective that relates goal/issue contributions with DoD mission effectiveness. A logistics research framework that provides a means to rank potential payoffs, monitor implementation efforts, and evaluate research results, must be developed in the future.

4. An information system that, in the context of the research framework and the organized resource base, collects, stores and retrieves data tailored to support the needs of the planning capability. A component of the information system is a set of research descriptors to classify the research and a set of issues to identify payoff areas. All the currently available services (bibliographic searches, for example) would still be provided in the near term, and augmented over the long term to make them more cost-effective. The basis for this information system is the LORI system design described in Chapter III. This design is keyed to the existing financial structure, but could operate effectively in the context of a larger, organized resource base if this should become available in the future. The set of goals/issues included in the design is a judgmental substitute for a more formalized and complete research framework. The design will work effectively within the present planning environment, but will also foster the development of a more formal planning process.

PLANNING REQUIREMENTS: DoD ISSUES AND RESEARCH INFORMATION

Relating Logistics Activities to DoD Issues

There is a need for a coherent, comprehensive structure within which logistics research, and its inherent utility, can be organized and assessed. This need can be satisfied by establishing: (1) a DoD goal structure that reflects both current and emerging logistics-related issues; (2) a set of research descriptors to categorize the subject of, and technological changes expected from, logistics research; and (3) a procedure to relate the research to the issues.

The goal/issue generation process is the key to a unified, comprehensive perspective that the high-level planner/manager needs to assess the relevance of logistics research (ongoing and planned) to DoD and Service-

specific issues. This process is an integral part of the formal planning process mentioned earlier. For the foreseeable future, the goal structure must also serve as a surrogate research framework.

We utilized the following criteria to derive the logistics-related goals/issues structure shown in Figure II-1.

1. The goal statement must represent legitimate issues.
2. The issues must reflect contempory or emerging urgent problems.
3. The issues can be addressed by logistics-related research.
4. The issues can be illustrated by specific examples.
5. The issues should be independent of one another.

The goal/issue structure is preliminary and must be refined in coordination with the logistics community. We expect that the high-level issues will remain constant over a period of years, but the lower-level issues will probably keep changing, as new ones are added and old ones either disappear or take new directions. The OSD-Service-research center dialogue that establishes and updates the issue hierarchy is part of the planning process (building block #1 discussed earlier). The Services and research organizations would be the principal source of lower-level issues.

The classification scheme provides a vocabulary of descriptors to define the subject and nature of the research and the technology and functions affected. A preliminary version, oriented toward the planner/manager, is shown in Figure II-2 and discussed at length in Chapter III. This version contains six different categories of descriptors, which we expect to refine as we learn how well they can be used.

The relationship between logistics research activities and issues is illustrated in Figure II-3. The basis for the relationship is the categorization, by the research organizations, of their projects by relevant issues and

FIGURE II-1

PRELIMINARY DoD-SERVICES LOGISTIC-RELATED GOALS/ISSUES

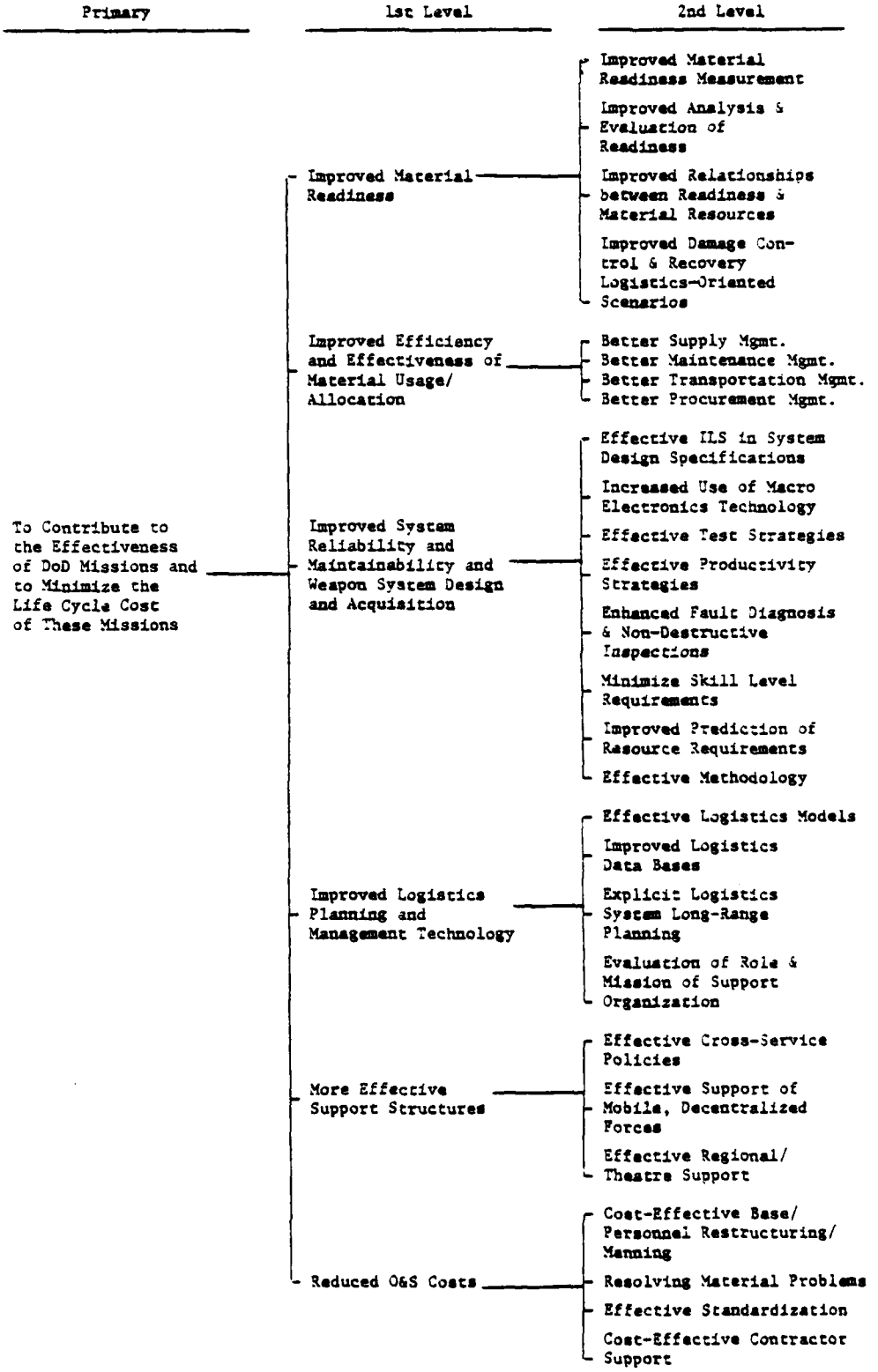


FIGURE II-2

PRELIMINARY LOGISTICS RESEARCH DESCRIPTORS

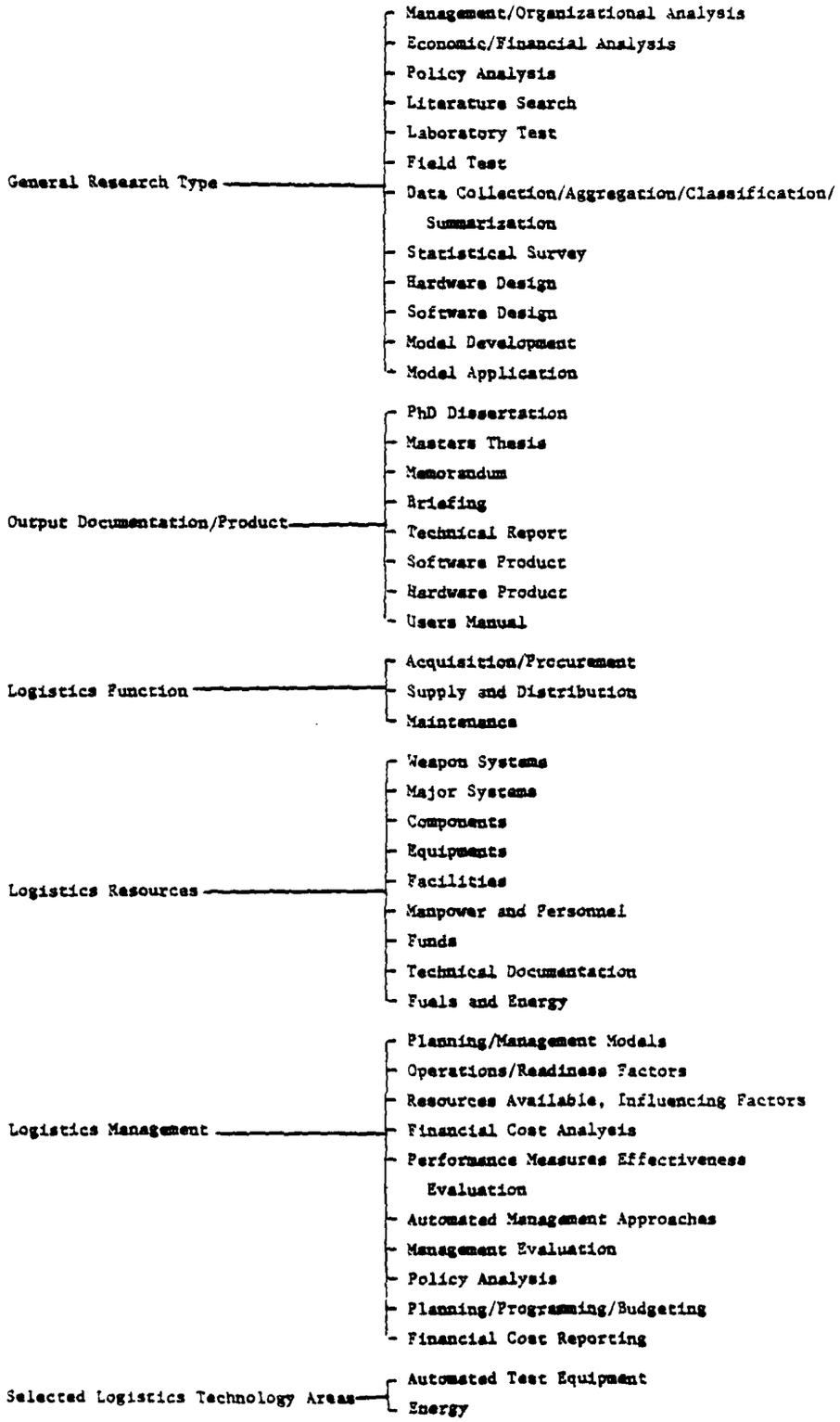
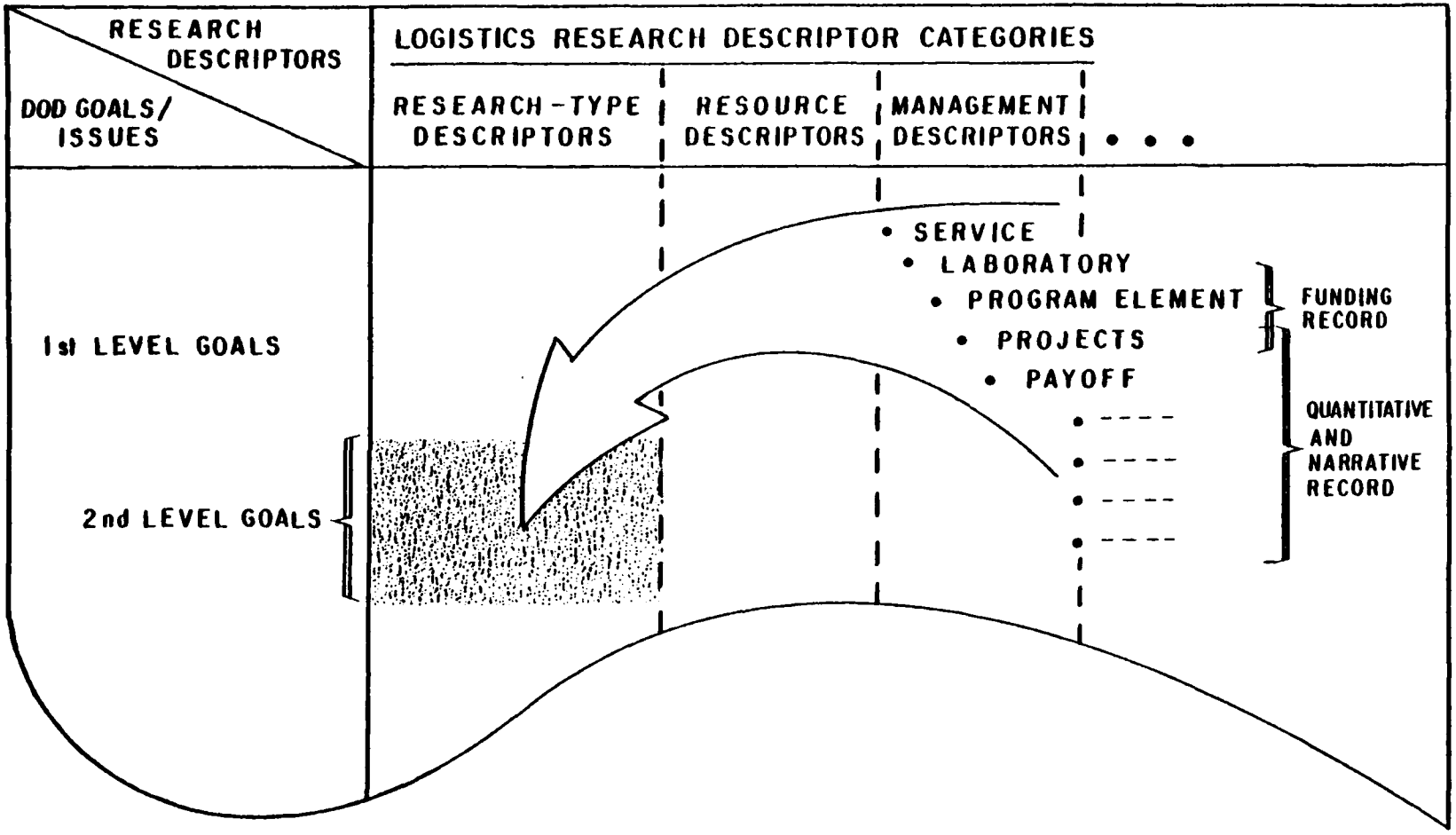


FIGURE II-3

MATRIX RELATIONSHIP BETWEEN LOGISTICS RELATED RESEARCH AND DOD GOALS / ISSUES



descriptors. The projects can then be tabulated by issue and descriptor. The result is a matrix showing the focus of the research program. Once the matrix is constructed, it will be straightforward to identify the distribution of ongoing and planned research by issues and project descriptors. The next section describes the detailed project information required by the system.

Information Essential to Planning Decisions

Logistics-related research planning should entail the description of current activities (a base case for a contemporary reference point), an assessment of the ongoing accomplishments, and a redirection of ongoing and planned research where necessary, with respect to current and emerging issues. More specifically, planning must:

- Describe research programs.
- Identify major technological thrusts.
- Identify research gaps.
- Identify undesired redundant activities.
- Link research to issues and to payoffs.
- Ensure that research is coordinated across appropriate organizations.
- Communicate what the preferred mix of research activities should be, specifying its emphasis and expected payoffs.
- Assist in the identification and application of additional resources where appropriate.

These planning requirements in turn establish a need for certain essential information that the logistics-oriented information system must provide. The set of essential information to be logically contained in the intersection of each issue-research activity, as indicated in Figure II-3, is comprised of the answers to the following questions:

- What is the need for the research (issue/problems statement)?
- Who is doing the research?
- What research is planned?

- When will the research be completed?
- How much will the research cost?
- What is the expected payoff/application?
- What is the source of funding?
- What interagency coordination is planned?
- How does the research relate to DoD logistics-related issues?

The specific data and data collection forms and output products required to provide the above information are described in Chapter III.

POTENTIAL PAYOFFS

Implementation of a policy-level logistics research information system would initially improve the management and planning of logistics research, and ultimately enhance the cost-effectiveness of DoD missions.

An effective logistics-research planning capability will enable users to direct ongoing and planned programs toward the most important issues (see Figure II-1). Improved information will allow OSD and the Services to increase coordination of research programs; help identify undesired redundant activities; increase awareness of issues receiving insufficient attention; enable OSD and Services to form a partnership, creating a research program with a level of effort in balance with the importance of the issues it tries to resolve; and, identify where additional resources are required.

DoD missions can be made more cost-effective as a result of logistics research, assuming an efficient transfer of the research results to the acquisition process and to operating and support processes. All the issues identified in Figure II-1 are related to DoD missions, and their resolution should directly affect mission resource requirements and the availability of end-item equipment.

III. BASIC LORI DESIGN

BASIC COMPONENTS

The basic components of the LORI design are illustrated in Figure III-1. The underlying premise is that there is a community of users (planners, managers, researchers) concerned with logistics research (resource requirements, payoffs, goals, etc.) and requiring a centrally controlled data collection and retrieval service to support their decision-making.

The focus of this initial analysis is the data and data collection methods required for the LORI system to meet the needs discussed in the previous chapter. LORI's other components--output generation, inquiry generation, data processing, etc., are still to be fully developed. The information system component will utilize the DTIC and DLSIE organizations as initial building blocks to collect, process and store data, and to produce output information in response to user inquiries. Therefore, we indicate a "community of information systems" rather than the LORI data base alone.

ESSENTIAL INFORMATION

Seven types of data are needed to make the LORI system operative: the research need, the output products, the application of the results, the key organizations, the coordination with other efforts, the timing of the research, and the funding data. Each type is discussed below.

Research Need

Data in this category describe the problem which the research will address. The research need must be stated in terms of a specific task which can then be related to DoD-wide logistics issues.

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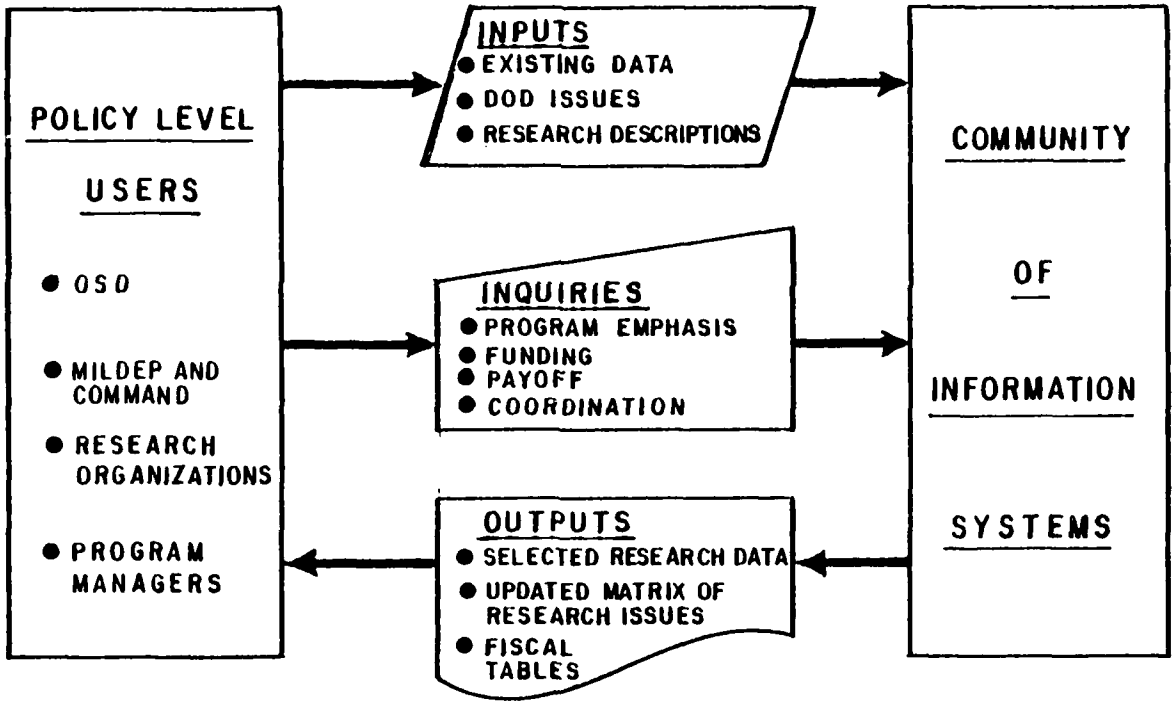
FIGURE III-1

LOGISTICS – ORIENTED RESEARCH INFORMATION SYSTEM CONCEPT



Output Products

Data in this category describe the actual products expected from the effort: hardware, software, policy guidelines, solution procedures, etc. The documentation format (technical report, user's manual, briefing slides, etc.) also falls into this category.

Application

These data describe how the output products will be used to address the research need.

Key Organizations

This category includes a description of the organizations which fund, administer and conduct the research, and whether there was inter-organizational coordination. It also includes the potential user(s) of the results.

Coordination

Data in this category address relationships between studies, in particular, whether a study uses results from other studies as input, or is a jointly funded effort.

Timing of Research

This category includes expected dates for start and completion of the project, availability of intermediate results, and initial benefits to the user.

Funding Data

This category lists the appropriate program element, project, task and work unit codes as the source of funding. It also includes the actual amount of funding, or projected funding, for known and planned fiscal years.

DATA COLLECTION FORM

A prototype form has been designed for collecting the data required by LORI. Termed the 1498R/1634R (the Rs are for revised), this form could, at

some future date, replace both the DD 1498 (Research and Technology Work Unit Summary) for in-process efforts and the DD 1634 (Research and Development Planning Summary) for planned efforts.

This revised form would be used only at DLSIE during the initial implementation of LORI. Currently, DTIC is considering revising both the 1498 and 1634 forms, and the changes recommended in this study should be a useful input to them. Ultimately, we expect that a unified form for LORI can be designed and used by both DTIC and DLSIE.

The 1498R/1634R form comprises an administrative information section and a narrative information section, supplemented by a research description section which deals specifically with logistics and is used to classify the research. Each of these sections is discussed separately below.

Part 1. Administrative Information Section

The prototype administrative information section is shown in Figure III-2. This section generally contains data required on either a DD 1498 or a DD 1634 form: title; security classification; sponsoring, responsible, and performing organizations; funding data; start and completion dates; and research classifiers. All of this information is defined currently in the DoD instructions relating to the DD 1498 (DoDI 7720.13) and the DD 1634 (DoDI 7720.16) data collection forms.

In addition to this information, the 1498R/1634R form requires: (1) information on other organizations participating in the effort (whether or not they are contributing any resources); (2) additional research funding information, including additional outyears and a source breakdown; (3) additional point of contact information; and (4) information on recently completed reports.

Part 2. Narrative Information Section

Figure III-3 displays the prototype narrative information section.

FIGURE III-2

PROTOTYPE ADMINISTRATIVE INFORMATION FORM (1498R/1634R)

DATE OF SUMMARY (M D Y)	DATE OF LAST SUMMARY (M D Y)	AGENCY ACCESSION	REPORT CONTROL SYMBOL

LEVEL OF SUMMARY	NATURE OF SUMMARY	SECURITY (SUMMARY / WORK)	DISTRIBUTION INSTRUCTIONS
☐ PROJECT	☐ NEW	☐ ☐ TOP SECRET	☐ NO LIMITATION
☐ TASK	☐ CHANGE	☐ ☐ SECRET	☐ LIMITED DISTRIBUTION
☐ WORK UNIT	☐ TERMINATION	☐ ☐ CONFIDENTIAL	☐ SPECIFY DISTRIBUTION CODE
	☐ COMPLETION	☐ ☐ UNCLASSIFIED	
	☐ CORRECTION	☐ REGRADING GROUP CODE	CONTRACTOR ACCESS ☐ YES ☐ NO

WORK TITLE (PRECEDE WITH SECURITY CLASSIFICATION CODE)

SPONSORING ORGANIZATION	START DATE (M D Y)	EXPECTED COMPLETION DATE (M D Y)

RESPONSIBLE ORGANIZATION (WORK MONITOR)
NAME:
ADDRESS:
CONTRACT:
PHONE: (AC) COMMERCIAL AUTOVON

PERFORMING ORGANIZATION (WORK UNIT SUMMARIES ONLY)
NAME:
ADDRESS:
CONTRACT:
PHONE: (AC) COMMERCIAL AUTOVON

CONTRACT/GRANT (WORK UNIT SUMMARIES ONLY)
DATES/EFFECTIVE: (M D Y) EXPIRATION: (M D Y)
NUMBER:
TYPE:
KIND OF AWARD:
AMOUNT (000)

RESOURCES ESTIMATE FY	TOTAL FUNDS (000)	MAN YEARS	% CONTRACT GRANT
PREVIOUS:			
CURRENT:			
BUDGET:			
BUDGET +1:			

FUNDING SOURCE	PROGRAM ELEMENT	TOTAL WORK FUNDING BY YEAR & SOURCE CURRENT %	BUDGET %	PROJECT NUMBER	TASK AREA	WORK UNIT NUMBER
PRIMARY						
CONTRIBUTING						
CONTRIBUTING						
FORMER		100%	100%			

ADDITIONAL PARTICIPATING GOVERNMENT ORG.	SHARED FUNDING	LIAISON CONTRACT	PHONE (AC) COMMERCIAL	PHONE AUTOVON
1.	☐ YES ☐ NO			
2.	☐ YES ☐ NO			
3.	☐ YES ☐ NO			

SCIENTIFIC/TECHNICAL AREAS

KEY WORDS (IN ORDER OF SIGNIFICANCE, MOST SIGNIFICANT TO LEAST)

LIST ANY REPORTS COMPLETED SINCE THE SUBMISSION OF THE PREVIOUS SUMMARY

FIGURE III-3

PROGRAM ELEMENT	PROJECT	TASK AREA	WORK UNIT (1498's only)

WORK TITLE (Precede with security classification code)	
PRIMARY OUTPUT PRODUCT	
DEFINITION What is (are) the primary result(s) of the effort?	
TIMING Will Users benefit from this effort during the next 12 months?	☐ Yes ☐ No
USERS Which organizations are potential users?	
APPLICATION How will the result(s) be used?	
ISSUE Describe the issue or problem that led to the origination of this project.	
PAYOFF What improvements will be realized from the above application (quantify if possible)?	
SECONDARY OUTPUT PRODUCTS	
What secondary or spin-off results and/or benefits are expected from this effort?	
INTERMEDIATE ACCOMPLISHMENTS	
If the primary result(s) will not be realized within 12 months, what results and/or milestones will be achieved within 12 months?	
PRIOR ACCOMPLISHMENTS	
If the effort is ongoing, what results have been achieved in the past 12 months?	
Name any system, program, project, etc. for which this effort is a follow-on?	
COORDINATION	
List any known efforts which are dependent on the result(s) of your effort as input.	
List any known efforts which may obtain results similar to your own.	
ADDITIONAL NOTES	
Identify any important aspects of your effort not adequately covered above.	

This section is designed to replace the current narrative sections in the DD 1498 and DD 1634 forms. It asks 13 specific questions about various aspects of the research, its interface with the rest of the logistics community, and the eventual users of its output product(s). Each question has been designed to obtain a specific response useful to planners and managers. The 13 questions are listed below, along with a brief description of the desired response.

1. DEFINITION: What is (are) the primary result(s) of the effort?--Describe the hardware, software, statistical survey, analysis, etc., that will result from the effort.

2. TIMING: Will users benefit from this effort during the next twelve months?--Check either yes or no.

3. USERS: Which organizations are potential users?--List all organizations which will be able make use of your results.

4. APPLICATION: How will the results be used?--Identify the manner in which the results will be used along with programs, weapon systems, etc., which will be improved by the results.

5. ISSUE: Describe the issue or problem that lead to the origination of this project.--What was the situation that initially motivated someone to formulate this project, task, or work unit?

6. PAYOFF: What improvements will be realized from the above application?--Describe the manner in which a program, system, etc., will perform more efficiently, effectively, safely, etc.; and (if possible) by how much, due to the effort.

7. What secondary or spin-off results and/or benefits are expected from this effort?--List any additional (i.e., other than primary) results and/or benefits expected from the effort.

8. If the primary result(s) will not be realized within twelve months, what results and/or milestones will be achieved within twelve months?--Describe any intermediate output products which are expected in the next twelve months.

9. If the effort is ongoing, what results have been achieved in the past twelve months?--Describe any intermediate results achieved in the past year.

10. Name any system, program, project, etc., for which this effort is a follow-on.--If the effort is a follow-on to an earlier project, please identify that project.

11. List any known efforts which are dependent on the result(s) of your effort.--Name any effort which will be a follow-on to yours or use its results as an input. If the effort will provide a component subsystem for a larger system(s), name the system(s).

12. List any known efforts which may obtain results similar to your own. --If you are aware of any efforts similar to this effort, or attempting to solve similar problems, please identify them.

13. Identify any important aspects of your effort not adequately covered above.--This space is left for any additional comments, concerning the effort, which you may wish to make.

Part 3. Research Descriptors Supplement

The research descriptors are used to classify logistics-related research. Because the classification structure is unique to logistics studies and research, it is included as a supplement to the 1498R/1634R. The intent is for the logistics descriptors to be used to categorize the research efforts and through those assignments to construct summary tables. Table III-1 displays the preliminary logistics-related research descriptors developed in this study.

There are six categories of descriptors and a set of DoD issues. The first two categories (general research type and output documentation product) are generic. They will be used to inform the system about planned activities, and to notify the system that documentation should be collected when the effort is complete. The next four categories are used to classify the effort in terms of logistics functions, resources, management, and technology areas. These descriptors address the subject, or logistics topic, in broad terms. Each descriptor defines a research sub-category.

These descriptors can also be used as selection keys when making inquiries to the system concerning ongoing or completed research, and can be employed when only a few selected sub-categories are pertinent.

The DoD logistics-related issues define the problem area to which the study or research is related (the set illustrated in Table III-1 was developed early in the study, and has been superseded by the set shown earlier in Figure II-2.)

TABLE III-1 PRELIMINARY CLASSIFICATIONS:
LOGISTICS-RELATED RESEARCH DESCRIPTORS AND GOALS/ISSUES

GENERAL RESEARCH TYPE (CHECK AT LEAST ONE)

- ☐ Management/Organizational Analysis
  - ☐ Economic/Financial Analysis
  - ☐ Policy Analysis
  - ☐ Literature Search
  - ☐ Laboratory Test
  - ☐ Field Test
  - ☐ Data Collection/Aggregation/Classification/Summarization
  - ☐ Statistical Survey
  - ☐ Hardware Design
  - ☐ Software Design
  - ☐ Model Development ☐ Model Application
    - ☐ Inventory Theory
    - ☐ Queuing Theory
    - ☐ Mathematical Programming
    - ☐ Simulation
    - ☐ Decision Analysis
    - ☐ Reliability Theory
    - ☐ Statistical Theory
    - ☐ Econometric Modeling
    - ☐ Other
  - ☐ Other/Unknown

OUTPUT DOCUMENTATION PRODUCT (CHECK AT LEAST ONE)

- ☐ PhD Dissertation
- ☐ Master's Thesis
- ☐ Memorandum
- ☐ Briefing
- ☐ Technical Report
- ☐ Software Product
- ☐ Hardware Product
- ☐ User's Manual
- ☐ Other/Unknown/Not Applicable

TABLE III-1 (Cont.)

LOGISTICS FUNCTIONS (CHECK AT LEAST ONE MAJOR CATEGORY (ACQUISITION, PROCUREMENT/PRODUCTION, ETC.) AND AT LEAST ONE SUBCATEGORY WITHIN EACH MAJOR CATEGORY CHECKED)

- ☐ Acquisition
  - ☐ Initial Support Planning
  - ☐ Life Cycle Cost Analysis
  - ☐ Reliability and Maintainability
  - ☐ Management Structure
  - ☐ Other
- ☐ Procurement/Production
  - ☐ Requirements Determination
  - ☐ Contracting Strategy
  - ☐ Scheduling and Delivery
  - ☐ Industrial Base
  - ☐ Pricing
  - ☐ Product/Contractor Performance Evaluation
  - ☐ Other
- ☐ Supply and Distribution
  - ☐ Demand Forecasting
  - ☐ Inventory Management
  - ☐ Supply Performance
  - ☐ Other
- ☐ Maintenance
  - ☐ Concepts
  - ☐ Management
  - ☐ Performance
  - ☐ Other
- ☐ Other/Unknown/Not Applicable

TABLE III-1 (Cont.)

LOGISTICS RESOURCES (CHECK AT LEAST ONE)

- ☐ Weapon Systems
- ☐ Major Systems
- ☐ Components
- ☐ Equipments
- ☐ Facilities
- ☐ Manpower and Personnel
- ☐ Funds
- ☐ Technical Documentation
- ☐ Fuels and Energy
- ☐ Other/Unknown/Not Applicable

LOGISTICS MANAGEMENT (CHECK AT LEAST ONE)

- ☐ Planning/Management Models
- ☐ Operations/Readiness Factors
- ☐ Resources Available, Influencing Factors
- ☐ Financial/Cost Analysis
- ☐ Performance Measures/Effectiveness Evaluation
- ☐ Automated Management Approaches
- ☐ Management Evaluation
- ☐ Policy Analysis
- ☐ Programming/Planning/Budgeting
- ☐ Financial Cost Reporting
- ☐ Other/Unknown/Not Applicable

LOGISTICS TECHNOLOGY AREAS (CHECK AT LEAST ONE)

- ☐ Automatic Test Equipment
- ☐ Energy
- ☐ Other/Unknown/Not Applicable

TABLE III-1 (Cont.)

ISSUES (CHECK (☑) ALL APPROPRIATE ISSUES, THEN CIRCLE (☑) THE ONE MOST APPROPRIATE ISSUE)

IMPROVED MATERIEL READINESS

- ☐ Improved Materiel Readiness Measurement
- ☐ Improved Analysis and Evaluation of Readiness
- ☐ Improved Relationships between Readiness and Materiel Resources
- ☐ Improved Damage Control and Recovery Logistics-Oriented Scenarios

IMPROVED EFFICIENCY AND EFFECTIVENESS OF MATERIEL USAGE/ALLOCATION

- ☐ Better Supply Management
- ☐ Better Maintenance Management
- ☐ Better Procurement Management

IMPROVED LOGISTICS SYSTEMS

- ☐ Degree of Centralization
- ☐ Number of Support Echelons
- ☐ Procurement vs. Repair
- ☐ Stockage vs. Transportation

IMPROVED SYSTEM RELIABILITY AND MAINTAINABILITY AND WEAPON SYSTEM DESIGN AND ACQUISITION

- ☐ Effective ILS in System Design Specifications
- ☐ Increased Use of Macro Electronics Technology
- ☐ Effective Test Strategies
- ☐ Effective Productivity Strategies
- ☐ Enhanced Fault Diagnosis & Non-Destructive Inspections
- ☐ Minimize Skill Level Requirements
- ☐ Improved Prediction of Resource Requirements
- ☐ Effective Methodology

TABLE III-1 (Cont.)

IMPROVED LOGISTICS PLANNING AND MANAGEMENT TECHNOLOGY

- ☐ Effective Logistics Models
- ☐ Improved Logistics Data Bases
- ☐ Explicit Logistics System Long-Range Planning
- ☐ Evaluation of Role & Mission of Support Organization

MORE EFFECTIVE SUPPORT STRUCTURES

- ☐ Effective Cross-Service Policies
- ☐ Effective Support of Mobile, Decentralized Forces
- ☐ Effective Regional/Theatre Support

REDUCED O&S COSTS

- ☐ Cost-Effective Base/Personnel Restructuring/Manning
- ☐ Resolving Materiel Problems
- ☐ Effective Standardization
- ☐ Cost-Effective Contractor Support

IV. CURRENT DLSIE CAPABILITIES: BASE CASE

OVERVIEW OF DLSIE

This chapter briefly outlines how DLSIE currently operates. We have selected DLSIE as our base case because it is chartered to maintain a collection of logistics studies and models and provide summaries of them on request. Microfiche copies of most studies are also available. DLSIE may be accessed, free of charge, by any government agency or private contractor working for a government agency through Autovon or commercial telephone.

Figure IV-1 shows the basic DLSIE information processing and retrieval flow. Information is gathered from DTIC, the National Technical Information Service (NTIS), and the logistics community. It is then screened, and if judged logistics-related, it is processed and placed in the DLSIE data base.

This base case review covers DLSIE responsibilities, reports and services, sources of policy guidance and support, document processing procedures, personnel, and data base files. The limitations of the present DLSIE system in serving planners and managers are also discussed.

DLSIE RESPONSIBILITIES

DLSIE is presently tasked, under DoDI 5154.19, with maintaining a system for collecting, storing, and disseminating logistics research and management information.* The objectives of this system are to provide:

1. A standardized bank of information regarding logistics studies performed in-house, on contract or under grant.

2. A means for avoiding duplication of study effort and attendant resources through ready access to current information concerning logistics studies and logistics research and management information that are planned, in-process and completed.

* Appendix B presents recommendations to modify DODI 5154.19 that would result in changes to enhance DLSIE's capability.

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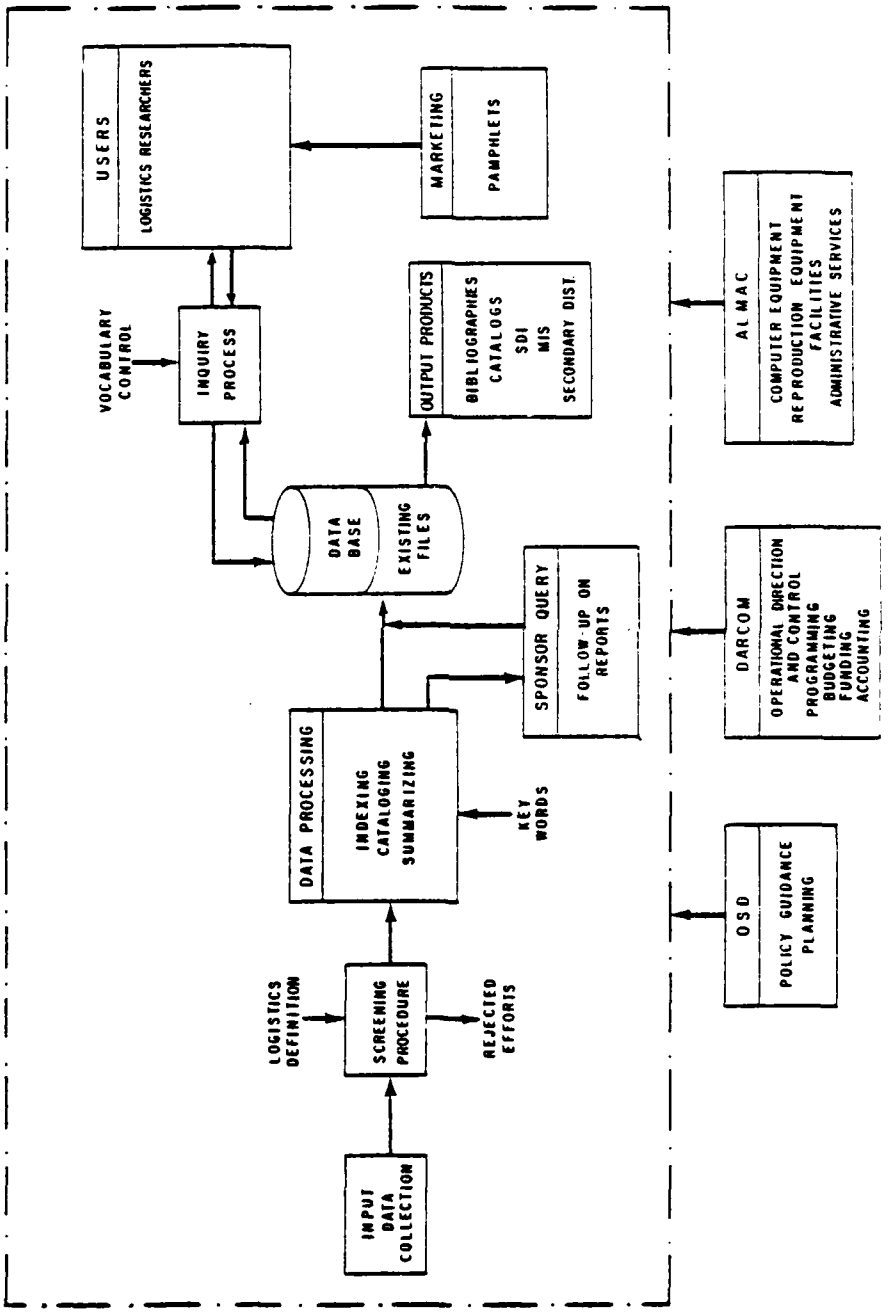
FIGURE IV-1


BASIC DLSIE FUNCTIONAL OVERVIEW
USERS
LOGISTICS RESEARCHERS
MARKETING
PAMPHLETS
VOCABULARY CONTROL
INQUIRY PROCESS
OUTPUT PRODUCTS
BIBLIOGRAPHIES
CATALOGS
SDI
MIS
SECONDARY DIST.
ALMAC
COMPUTER EQUIPMENT
REPRODUCTION EQUIPMENT
FACILITIES
ADMINISTRATIVE SERVICES
DATA BASE
EXISTING FILES
SPONSOR QUERY
FOLLOW-UP ON REPORTS
DARCOM
OPERATIONAL DIRECTION AND CONTROL
PROGRAMMING
BUDGETING
FUNDING
ACCOUNTING
DATA PROCESSING
INDEXING
CATALOGING
SUMMARIZING
KEY WORDS
OSD
POLICY GUIDANCE
PLANNING
LOGISTICS DEFINITION
SCREENING PROCEDURE
REJECTED EFFORTS
INPUT DATA COLLECTION

3. A basis for exchange of logistics research and management information, both current and historical.

4. A comprehensive collection of completed logistics studies for background research purposes.

5. A means for increased application of logistics studies and logistics research and management information in day-to-day operations, and for visibility toward standardization of logistics systems where appropriate.

6. Increased effectiveness of logistics research and management information flow with other U.S. Government agencies.

7. Active and continuing acquisition of all logistics studies and related documentation. This includes documents from outside DoD when they are considered pertinent to the logistics management efforts of the DoD.

8. Prompt and well-indexed announcements of currently significant logistics studies and related documentation.

9. In-depth custom bibliographic services about all logistic functional and sub-functional areas.

In line with these objectives, DLSIE is given the following responsibilities:

1. Acquire, store, organize and disseminate information about the following:

   a. Logistics studies (planned, in-process and completed).

   b. Miscellaneous documents (technical journals, books official policy letters and speeches, research papers and any other documentation), the content of which may be pertinent and useful to the planning and improvement of logistics.

2. Maintain a current inventory of all logistics studies (planned, in-process and completed) and related documentation which may be of significance to the research and management of logistics.

3. Maintain the DoD central collection of completed logistics studies and related documentation for historical purposes.

4. Publish a comprehensive annual bibliography with quarterly supplements of logistics studies and related documents.

   a. Each listing in the bibliography will contain the following information if applicable:

      (1) General subject area of the study.

(2) Date of document.

(3) Title.

(4) Agency report number (preparing agency's identification number).

(5) Defense Logistics Studies Information Exchange accession (logistics document identification) number.

(6) Sponsoring DoD activity.

(7) Responsible individual (if appropriate).

(8) Performing organization.

(9) Start and completion dates.

(10) Contract number.

(11) Defense classified information and release limitations.

(12) Scope and objectives of planned or in-process study; abstract or summary of completed study.

(13) Key words (descriptors used for retrieval).

(14) Recommendations and/or conclusions.

(15) Disposition action taken by the responsible Defense component on the recommendations and/or conclusions.

b. The bibliography will not contain classified information. Classified information will be provided upon request.

c. The bibliography will be distributed automatically to all Defense components which perform or have responsibility for the supervision of logistics research. Other interested agencies may receive copies upon request to the DLSIE.

5. Provide secondary distribution of logistics research and management information (including logistics studies) to Defense components upon request, and to other Government agencies upon request on a reimbursable basis.

6. Furnish logistics research and management information upon request in the form of custom and/or annotated bibliographies and Selective Dissemination of Information Lists. The study collection will also be made available to users of the DLSIE for on-site research at Fort Lee, Virginia.

Each DoD component is responsible for identifying planned, in-process, and completed logistics studies which it sponsors. This includes the submission of DD form 1498 (or other forms) for planned and in-process studies, two copies of each completed study, the conclusions and/or recommendations of the study and the action taken on them. Each DoD component is also responsible for providing DLSIE with its own distribution requirements for DLSIE published documents. Finally, each DoD component is responsible for assuring that the DLSIE bibliographic service is used prior to funding and approving a new logistics study.

DLSIE REPORTS AND SERVICES

DLSIE's primary vehicle for disseminating information on logistics studies is its Annual DoD Bibliography of Logistics Studies and Related Documents and its three quarterly supplements. The annual bibliography contains abstracts of planned, in-process, and completed (within the past two years) studies. DLSIE also publishes the Annual DoD Catalogue of Logistics Models, which contains descriptions of planned, in-process, and completed (within the past year) logistics modeling efforts.

Users who wish to obtain information on specific subjects, contractors, and performing organizations, or to retrieve data published prior to the current studies and models catalogues may utilize DLSIE's custom bibliography service. Although DLSIE will respond to written requests, a telephone contact with a DLSIE information specialist will usually result in a more appropriate bibliography. The DLSIE information specialist will query the caller to determine the caller's needs, and will use his own knowledge of the DLSIE data base to formulate the request most suited to those needs. Data may be retrieved by requesting any of the data elements shown in Table IV-1.

TABLE IV-1

POSSIBLE RETRIEVAL KEYS

(Current DLSIE System)

Studies Data Base	Models Data Base
Subject Descriptor(s)	Subject Descriptor(s)
Document Identifier Number (LD)	Document Identifier Number (LD)
Sponsoring Organization	Acronym
Performing Organization	Publication Date
Time Frame	Sponsoring Organization
Type Document	Developing Organization
Publication Date	Development Cost
Study Status	User
Security Classification	Security Classification
	Distribution Limitation
	Model Status
	Application Technique
	Treatment of Events
	Treatment of Time
	Use Category

Another current DLSIE service is selective dissemination of information (SDI). SDI is an automatic bibliography, tailored to registered users' information profiles. Registration for SDI is usually accomplished by completing a user profile form specifying area(s) of interest. SDI is then distributed monthly, as new accessions to the data base are made. An individual may also become registered for SDI automatically if listed as the principal investigator on a 1498 form. In this case, DLSIE will develop the user profile based on the work unit summary description.

Yet another final report available from DLSIE is the management information system (MIS) report. The MIS focuses on planned and in-process efforts. It is published monthly and contains abstracts of recently reported efforts along with related (at least one subject descriptor in common) planned and in-process efforts. Primary distribution (hard copy) of the MIS is limited to addressees provided by OSD.

DLSIE also provides secondary distribution (microfiche) copies of unclassified documents on completed logistics studies and models in its possession as well as hard-copy library service from its location in Fort Lee, Virginia.

POLICY GUIDANCE AND SUPPORT

DLSIE receives its primary policy guidance from the Office of the Assistant Secretary of Defense, Manpower Reserve Affairs and Logistics (OASD(MRA&L)). The Assistant Secretary of the Army (Installations, Logistics and Financial Management) is assigned operational direction and control, as well as programming, budgeting, funding, accounting, and reporting responsibility for DLSIE. This responsibility is in turn delegated to the U.S. Army Materiel Development and Readiness Command (DARCOM), Plans and Analysis Directorate. Finally, the U.S. Army Logistics Management Center (ALMC) under the U.S. Army Training and Doctrine Command (TRADOC) is responsible for providing adequate facilities, administrative services, computer equipment, and reproduction equipment to permit the execution of the DLSIE mission.

DOCUMENT PROCESSING PROCEDURES

General

DLSIE's sources of input may be divided into five categories: (1) 1498 forms provided by DTIC, (2) task orders, (3) DTIC technical abstracts bulletins or NTIS Government Reports announcements, (4) reports provided by DTIC, NTIS, sponsoring, or performing organizations, and (5) periodical reviews. The 1498 forms and the task orders are the sources for planned and in-process efforts. The DTIC technical abstracts bulletins are used to select finished reports which DLSIE will request from DTIC. The finished reports and periodicals are used in DLSIE's completed efforts data base.

Logistics Definition Screen

Figure IV-2 shows the document flow for each of the above categories of input. In each case, a key processing step is the screening by the technical information officer, who decides if the document is logistics-related and, hence, appropriate for DLSIE. The following definitions apply:

1. Logistics is the science of planning and carrying out the movement and maintenance of forces. In its most comprehensive sense, those aspects of military operations which deal with: a. design and development, acquisition, storage, movement, distribution, maintenance, evacuation, and disposition of materiel; b. movement, evacuation, and hospitalization of personnel; c. acquisition or construction, maintenance, operation, and disposition of facilities; and d. acquisition or furnishing of services.

2. Logistics research and management information includes that data pertinent to logistics studies, development of logistics concepts or systems, and improved logistics planning.

3. Logistics studies are examinations or investigations of specific subject areas which are assembled in written form and are objective and analytic inquiries directed toward improving or planning logistics management. They include: a. studies of logistics systems undertaken in response to identified logistics management problems; b. management-type surveys in logistics areas; c. investigation of new methods, procedures or techniques in real or simulated logistics environments. Studies of strategy and tactics are excluded from this definition.

4. Logistics models depict the general characterization of a process, object, or concept, in terms of mathematical symbols, which enable the relatively simple manipulation of variables to be accomplished in order to determine how the process, objective, or concept would behave in different situations. This definition includes models of various types, war games, and simulations.

Planned and In-Process Studies and Models

The principal processing steps for planned and in-process studies and models as shown in Figure IV-2 are:

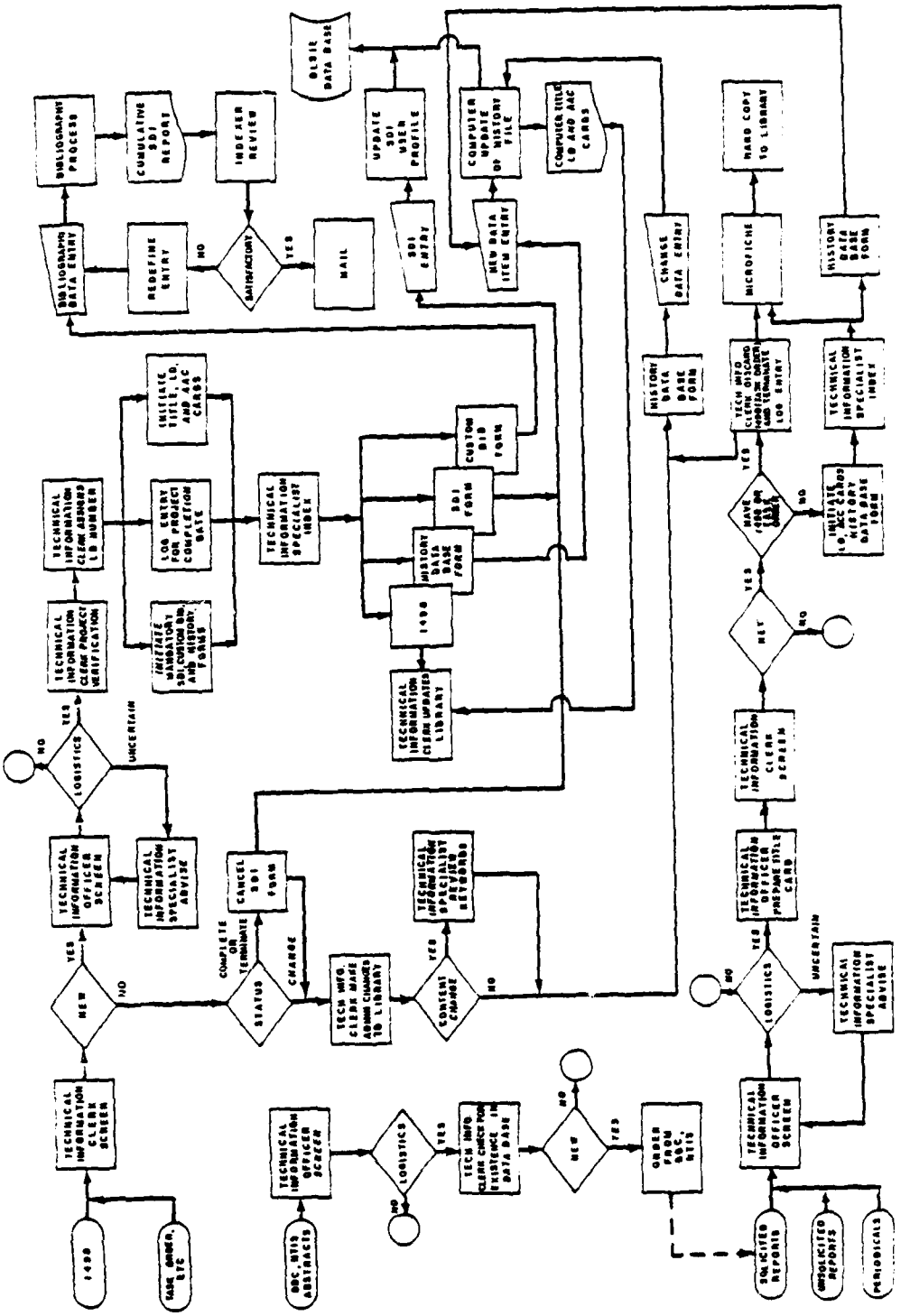
1. A determination of whether or not an effort is logistics-related.

2. The verification that the project is on-going or is still planned.

3. The log entry of the expected completion date for follow-up purposes.

FIGURE IV-2

DLSIE DOCUMENT FLOW



4. The assignment of subject descriptors.

5. The initiation of both SDI and a custom bibliography for the principal investigation (with new efforts), or the cancellation of SDI (with completed or terminated efforts).

6. The update processes for the history files.

Completed Studies and Models

Completed studies and models may be solicited reports, unsolicited reports, or periodical articles. DLSIE may solicit reports from DTIC, based on their technical abstracts bulletins, or from the performing organization, if the completion date specified on a 1498 form has passed and DLSIE has not received the report. Unsolicited reports are those where the sponsoring defense component, in compliance with DoDI 5154.19, submits copies of completed logistics studies and related documentation. As shown in Figure IV-2, the key processing steps for completed studies and models are:

1. A determination of whether or not it is logistics-related.

2. The assignment of subject descriptors (if effort is not already registered through the planned and in-process efforts process).

3. The update process for the history files.

4. The microfiche process.

PERSONNEL FUNCTIONS

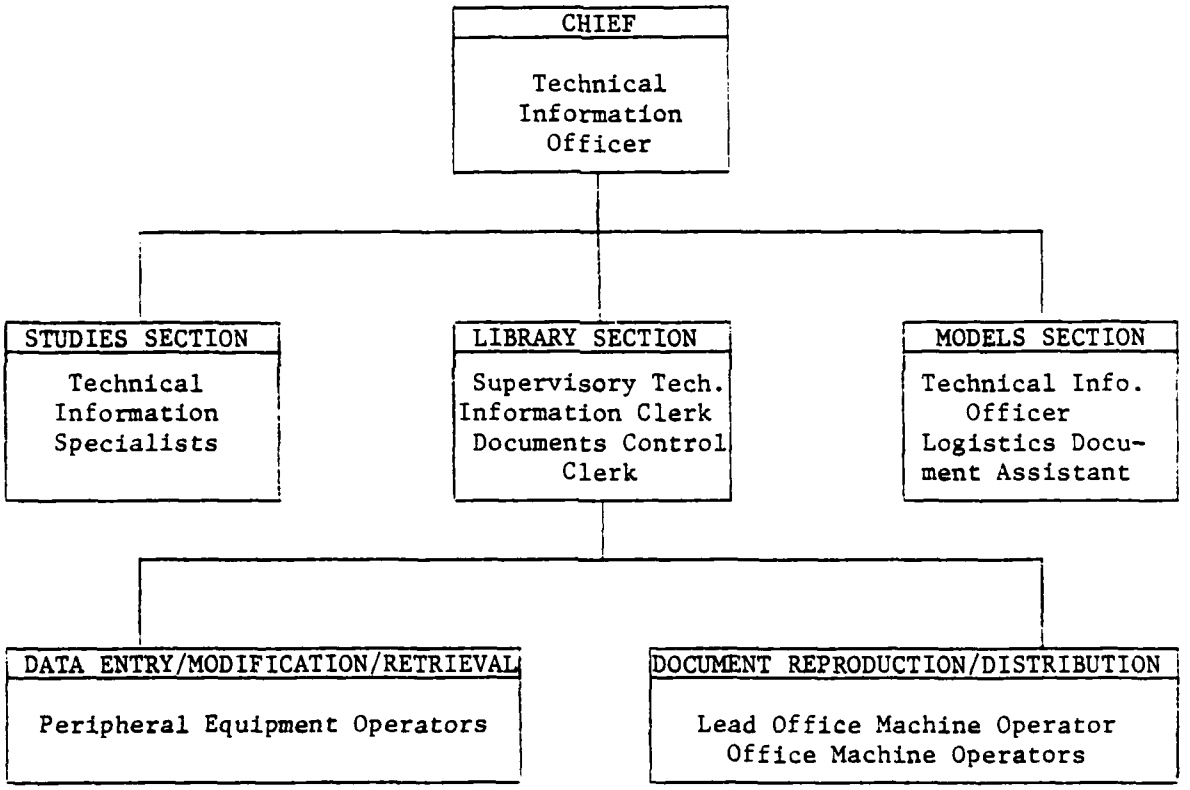
Figure IV-3 shows the DLSIE functional organization. DLSIE personnel are organized into four groups: the technical information officers, the technical information clerks, the librarian, and the administrative personnel. The functions performed by each group are discussed in the following sections.

Technical Information Officers

These individuals provide day-to-day DLSIE management and control. In addition, they are responsible for screening all elements of the data base to assure that each is logistics-related. Finally, user interface with the

FIGURE IV-3

DLSIE ORGANIZATION



models portion of the data base and model indexing are performed by a technical information officer.

Technical Information Specialists

These individuals are responsible for indexing studies and for assisting users to identify and retrieve relevant studies from the data base.

Librarian

The librarian maintains the hard copy library, follows up on planned and in-process research to make sure that there is (or is going to be) such an effort,* and when a completion date has passed, but DLSIE has not received a report. The librarian also maintains files on each study and model in the DLSIE data base.

Administrative Personnel

These individuals provide day-to-day clerical support as well as data entry, modification, and retrieval from the data base. In addition, they are responsible for microfiche reproduction and distribution.

DATA BASE FILES

The DLSIE data base is composed of 10 data files. They are briefly described below:

Model/Study Sponsor File

This file lists all organizations which have either sponsored, *performed, or published* documentation in the DLSIE data base. Included are various DoD agencies and laboratories, private contractors, universities, and periodicals.

Study Descriptor File

This file contains the study descriptors used by DLSIE for indexing, and the number of data elements in the studies portion of the data base for which that descriptor is appropriate.

---

* This follow-up is necessary because of the significant number of projects that are planned and cancelled before being initiated.

Model Descriptor File

This file contains the model descriptors used by DLSIE for indexing, and the number of data elements in the models portion of the data base for which that descriptor is appropriate.

Model/Study Title File

This file lists the titles of all data items in the DLSIE data base.

Model/Study History File

This file is used to generate the custom bibliography, SDI, MIS, Annual DoD Bibliographies of Logistics Studies and Related Documents and the Annual DoD Catalogues of Logistics Models. Although the information is presented in different formats for different publications, it is normally drawn from a single entry in the history data file. An exception to this will occur if the effort is classified as both a study and a model, in which case the effort is entered once as a study (with the study format) and once as a model (with the model format).

The history data file contains information such as the title, sponsor, author, performing organization, completion date, an abstract, conclusions, recommendations, and implementing actions for a study. For models, this file includes similar information, along with additional data about the characteristics of the model and its computer application.

Model/Study Distribution File

This file lists the organizations that receive DLSIE documents, and indicates which documents they are to receive.

Model/Study/SDI/MIS Table File

This file contains the addresses of organizations to receive DLSIE publications and is used simply to print the addresses on labels for mailing.

Model Inverted Index File

This file links the subject descriptors to those data elements contained in the models portion of the data base.

Study Inverted Index File

This file links the subject descriptors to those data elements contained in the study portion of the data base.

Model/Study Supplement File

This file contains the same information as the history file except that the data elements are for new accessions to DLSIE's data base. This file is merged with the history file each month and then cleared.

LIMITATIONS

DLSIE's ability to serve planners and managers is limited in four major areas. First, DLSIE does not have the ability to either develop DoD logistics-related issues or to map studies onto issues. Without this, a planner or manager cannot effectively locate study gaps or undesired redundancies. Second, DLSIE does not track study funding data. Without funding data, a planner or manager cannot determine if the most critical logistics-related problems are being addressed at the appropriate level of effort. Third, DLSIE does not maintain a record of the intended beneficiary or application of the research results. Without this, it is difficult to determine whether or not benefits were realized from the study or research effort. Finally, DLSIE lacks the hardware and software to provide users with direct access to the data base as well as generate aggregate, custom tables or other reports or logistics-related research.

V. IMPLEMENTATION OF LORI

RELATIONSHIP BETWEEN DLSIE AND LORI

This chapter discusses the implementation of the prototype LORI system. It also outlines, in general, implementation procedures that will be necessary in the future when the existing 1498 system is revised. This "follow-on" implementation will be required to fully involve DLSIE in the logistics research planning and management process and to ensure the acceptance of the system by the DoD logistics community. Other activities that may affect the LORI design are noted at the end of the chapter.

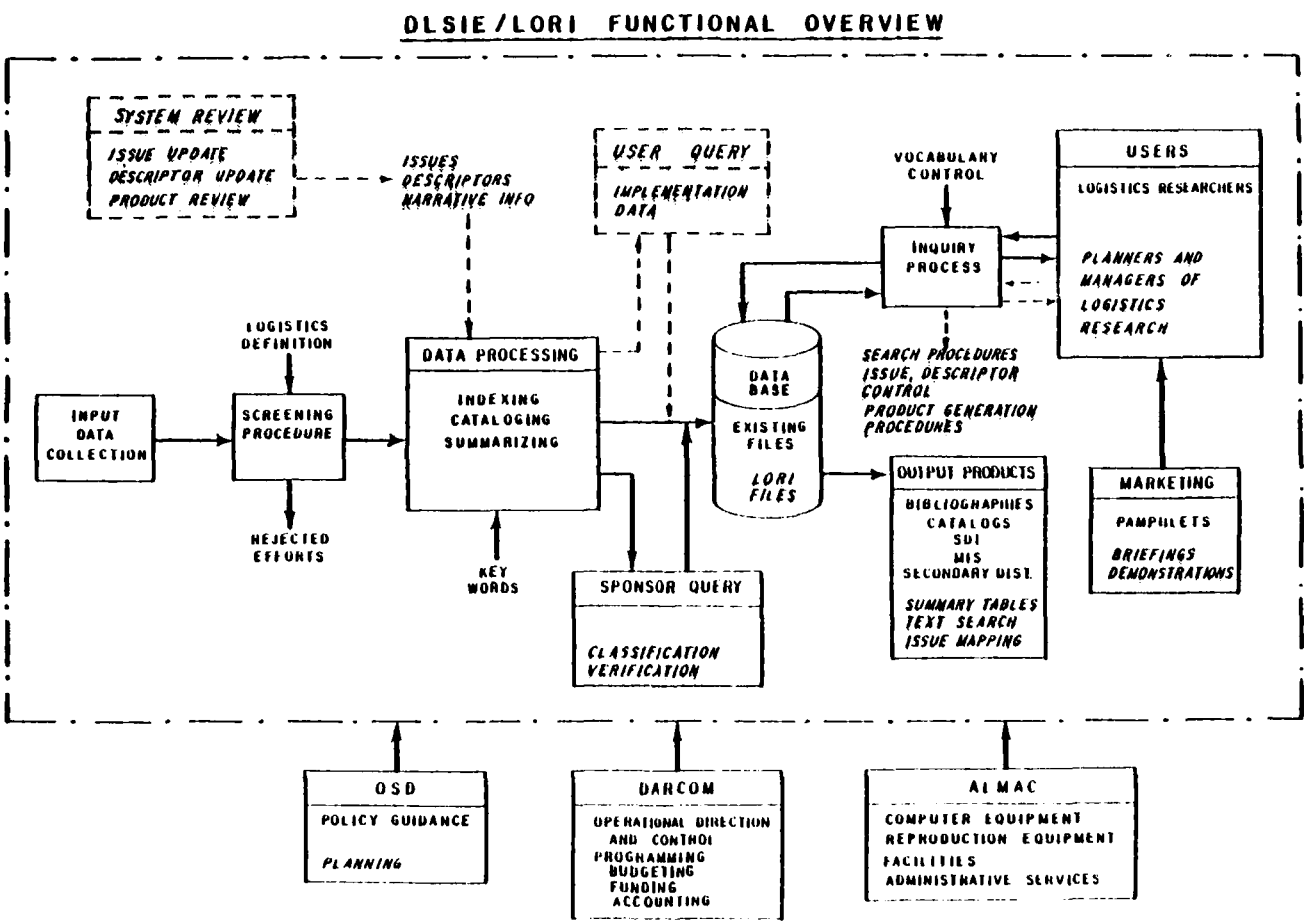
Figure V-1 illustrates the basic DLSIE/LORI information processing and retrieval flow. This is the schematic shown in Figure IV-1 with several additions. These additions are shaded for easy reference, and represent the supplemental processes necessary to realize the recommended design.

The LORI system adds two processes to DLSIE which are not performed at the present time. First, there will be a formal annual review of the issues, project descriptors, and output products. Second, there will be a follow-up to evaluate the uses of logistics studies and research results. In addition, most of the other existing processes will be augmented to incorporate the LORI system requirements.

INITIAL IMPLEMENTATION

Key elements in the LORI design are the implementation of the new sources of information, screening procedures, revised data forms, sponsor review, research payoffs follow-up. Functional aspects of these elements that are necessary to implement the initial LORI capability are discussed below. Implementation of LORI computer hardware and software (i.e., equipment

FIGURE V-1


DLSIE/LORI FUNCTIONAL OVERVIEW
SYSTEM REVIEW
ISSUE UPDATE
DESCRIPTOR UPDATE
PRODUCT REVIEW
ISSUES
DESCRIPTORS
NARRATIVE INFO
USER QUERY
IMPLEMENTATION DATA
VOCABULARY CONTROL
USERS
LOGISTICS RESEARCHERS
PLANNERS AND MANAGERS OF LOGISTICS RESEARCH
INQUIRY PROCESS
LOGISTICS DEFINITION
INPUT DATA COLLECTION
SCREENING PROCEDURE
REJECTED EFFORTS
DATA PROCESSING
INDEXING
CATALOGING
SUMMARIZING
KEY WORDS
DATA BASE
EXISTING FILES
LORI FILES
SEARCH PROCEDURES
ISSUE, DESCRIPTOR CONTROL
PRODUCT GENERATION PROCEDURES
OUTPUT PRODUCTS
BIBLIOGRAPHIES
CATALOGS
SDI
MIS
SECONDARY DIST.
SUMMARY TABLES
TEXT SEARCH
ISSUE MAPPING
MARKETING
PAMPHLETS
BRIEFINGS
DEMONSTRATIONS
SPONSOR QUERY
CLASSIFICATION VERIFICATION
OSD
POLICY GUIDANCE
PLANNING
DARCOM
OPERATIONAL DIRECTION AND CONTROL
PROGRAMMING
BUDGETING
FUNDING
ACCOUNTING
ALMAC
COMPUTER EQUIPMENT
REPRODUCTION EQUIPMENT
FACILITIES
ADMINISTRATIVE SERVICES

selection, program development and testing, operational phase-in, etc.) will be considered under later study phases and are not discussed here. Procedural changes at a detailed level, the interface with DLSIE users, and LORI documentation will, similarly, be determined by later study phases.

Basic Data Source - DD 1498

The primary source of information during the initial implementation will be the DD Form 1498 (Research and Technology Work Unit Summary). DoDI 7720.13 states that the heads of all RDT&E laboratories and RDT&E monitoring offices are responsible for completing those forms for ongoing efforts, ensuring that they are accurate and up-to-date, and forwarding the information to DTIC. Similarly, DoDD 5010.22 requires the completion of DD 1498 for all studies and analysis performed within or under contract or grant from DoD. These DD 1498 forms are required to be prepared and approved by September 1 for studies and analysis to be performed during the next fiscal year and are collected by DTIC.

Screening Procedure

From all of the 1498 forms sent to DTIC, DLSIE must select those that are logistics-related and should be included in the LORI system. This screening process may be accomplished in two steps. The first is to use a DTIC user profile form, shown in Figure V-2, to enable DTIC to identify all research efforts that are potentially logistics-related. That set of research efforts will then be sent to DLSIE for a second screening, which will consist of a review by the DLSIE technical information officers and result in a final decision on whether the research belongs in DLSIE (and hence in LORI).

An alternative procedure would be to change the DD1498 implementing instructions, DoDI 7720.13 and DoDD 5010.22 (described above), to require originators to identify a project as logistics or logistics related. An even

FIGURE V-2

REGISTRATION FOR SCIENTIFIC AND TECHNICAL INFORMATION SERVICES

(No carbon paper is required in the completion of this form)

FOR DDC CENTRAL FILE USE

DOD USER CODE

CONTRACT TYPE

USER TYPE

FACILITY CLEARANCE

CONTRACT CLEARANCE

APPROVING OFFICIAL FORWARD COMPLETED FORM TO:

DEFENSE DOCUMENTATION CENTER
ATTN: DDC-TSR-1
CAMERON STATION, BLDG. 5
ALEXANDRIA, VIRGINIA 22314

PART I - REQUESTER APPLICATION

1. ORGANIZATION NAME

2. MAILING ADDRESS *(Street, City, State, ZIP Code)*

3. ATTENTION LINE *(Name and Organizational Title of Requesting Official)*

4. TELEPHONE NUMBER *(Include Area Code)*

5. SIGNATURE

6. DATE

7. PRIME CONTRACT/GRANT OR PROGRAM NO. *(Enter one only)*

8. EXPIRATION DATE OF ITEM 7

9. CLASSIFICATION REQUIRED

☐ UNCLASSIFIED ☐ NATO CLASSIFIED
☐ CONFIDENTIAL ☐ RESTRICTED DATA
☐ SECRET ☐ CNWDI

PART II - PRIME CONTRACTOR APPROVAL *(If Part I is a Subcontractor)*

10. ORGANIZATION NAME AND ADDRESS

11. SUB-CONTRACT NUMBER

12. EXPIRATION DATE OF ITEM 11

13. TYPED NAME AND SIGNATURE

14. DATE

PART III - CERTIFICATION AND APPROVAL

15. ORGANIZATION NAME AND ADDRESS

16. TELEPHONE NUMBER *(Include Area Code)*

17. DATE

18. TYPED NAME AND TITLE OF APPROVING OFFICIAL

19. SIGNATURE

THE DDC CENTRAL FILES MUST BE NOTIFIED IMMEDIATELY OF ANY CHANGES TO INFORMATION PROVIDED ON THIS FORM

(FOR DDC USE ONLY)

PART IV - SUBJECT FIELDS OF INTEREST

Circle required codes below. Mandatory only for Classified Services. First Number is the Subject Field; the second is the more specific group. See Subject Fields on Reverse.

01-01	06-12	11-01	15-05	19-04
01-02	06-13	11-02	15-06	19-05
01-03	06-14	11-03	15-07	19-06
01-04	06-15	11-04	16-01	19-07
01-05	06-16	11-05	16-02	19-08
02-01	06-17	11-06	16-03	20-01
02-02	06-18	11-07	16-04	20-02
02-03	06-19	11-08	16-04.1	20-03
02-04	06-20	11-09	16-04.2	20-04
02-05	06-21	11-10	16-04.3	20-05
02-06	07-01	11-11	17-01	20-06
03-01	07-02	11-12	17-02	20-07
03-02	07-03	12-01	17-02.1	20-08
03-03	07-04	12-02	17-03	20-09
04-01	07-05	13-01	17-04	20-10
04-02	08-01	13-02	17-05	20-11
05-01	08-02	13-03	17-06	20-12
05-02	08-03	13-04	17-07	20-13
05-03	08-04	13-05	17-08	20-14
05-04	08-05	13-06	17-09	21-01
05-05	08-06	13-07	17-10	21-02
05-06	08-07	13-08	18-01	21-03
05-07	08-08	13-09	18-02	21-04
05-08	08-09	13-10	18-03	21-05
05-09	08-10	13-10.1	18-04	21-06
05-10	08-11	13-11	18-05	21-07
05-11	08-12	13-12	18-06	21-08
06-01	08-13	13-13	18-07	21-08.1
06-02	08-14	14-01	18-08	21-08.2
06-03	09-01	14-02	18-09	21-09
06-04	09-02	14-03	18-10	21-09.1
06-05	09-03	14-04	18-11	21-09.2
06-06	09-04	14-05	18-12	22-01
06-07	09-05	15-01	18-13	22-02
06-08	09-06	15-02	18-14	22-03
06-09	10-01	15-03	19-01	22-04
06-10	10-02	15-03.1	19-02	
06-11	10-03	15-04	19-03	

DD FORM 1 JUL 71 1540

REPLACES EDITION OF 1 NOV 68, WHICH MAY BE USED UNTIL EXHAUSTED

COPY DESIGNATION: White - DDC; Green - DDC; Yellow - Approving Official;

FIGURE V-2 (cont.)

SUBJECT FIELD AND GROUP STRUCTURE

01 Aeronautics
- 01 Aerodynamics
- 02 Aeronautics
- 03 Aircraft
- 04 Aircraft flight instrumentation
- 05 Air facilities

02 Agriculture
- 01 Agricultural chemistry
- 02 Agricultural economics
- 03 Agricultural engineering
- 04 Agronomy and horticulture
- 05 Animal husbandry
- 06 Forestry

03 Astronomy and Astrophysics
- 01 Astronomy
- 02 Astrophysics
- 03 Celestial mechanics

04 Atmospheric Sciences
- 01 Atmospheric physics
- 02 Meteorology

05 Behavioral and Social Sciences
- 01 Administration and management
- 02 Documentation and information technology
- 03 Economics
- 04 History, law and political science
- 05 Human factors engineering
- 06 Humanities
- 07 Linguistics
- 08 Man-machine relations
- 09 Personnel selection, training and evaluation
- 10 Psychology (Individual and group behavior)
- 11 Sociology

06 Biological and Medical Sciences
- 01 Biochemistry
- 02 Bioengineering
- 03 Biology
- 04 Bionics
- 05 Clinical medicine
- 06 Environmental biology
- 07 Escape, rescue and survival
- 08 Food
- 09 Hygiene and sanitation
- 10 Industrial (Occupational) medicine
- 11 Life support
- 12 Medical and hospital equipment and supplies
- 13 Microbiology
- 14 Personnel selection and maintenance (Medical)
- 15 Pharmacology
- 16 Physiology
- 17 Protective equipment
- 18 Radiobiology
- 19 Stress physiology
- 20 Toxicology
- 21 Weapon effects

07 Chemistry
- 01 Chemical engineering
- 02 Inorganic chemistry
- 03 Organic chemistry
- 04 Physical chemistry
- 05 Radio and radiation chemistry

08 Earth Sciences and Oceanography
- 01 Biological oceanography
- 02 Cartography
- 03 Dynamic oceanography
- 04 Geochemistry
- 05 Geodesy
- 06 Geography
- 07 Geology and mineralogy
- 08 Hydrology and limnology
- 09 Mining engineering
- 10 Physical oceanography
- 11 Seismology
- 12 Snow, ice and permafrost
- 13 Soil mechanics
- 14 Terrestrial magnetism

09 Electronics and Electrical Engineering
- 01 Components
- 02 Computers
- 03 Electronic and electrical engineering
- 04 Information theory
- 05 Subsystems
- 06 Telemetry

10 Energy Conversion (Non-propulsive)
- 01 Conversion techniques
- 02 Power sources
- 03 Energy storage

11 Materials
- 01 Adhesives and seals
- 02 Ceramics, refractories and glasses
- 03 Coatings, colorants and finishes
- 04 Composite materials
- 05 Fibers and textiles
- 06 Metallurgy and metallography
- 07 Miscellaneous materials
- 08 Oils, lubricants, and hydraulic fluids
- 09 Plastics
- 10 Rubbers
- 11 Solvents, cleaners and abrasives
- 12 Wood and paper products

12 Mathematical Sciences
- 01 Mathematics and statistics
- 02 Operations research

13 Mechanical, Industrial, Civil and Marine Engineering
- 01 Air conditioning, heating, lighting and ventilating
- 02 Civil engineering
- 03 Construction equipment, materials and supplies
- 04 Containers and packaging
- 05 Couplings, fasteners and joints
- 06 Ground transportation equipment
- 07 Hydraulic and pneumatic equipment
- 08 Industrial processes
- 09 Machinery and tools
- 10 Marine engineering
- 10 1 Submarine engineering
- 11 Pumps, filters, pipes, tubing and valves
- 12 Safety engineering
- 13 Structural engineering

14 Methods and Equipment
- 01 Cost effectiveness
- 02 Laboratories, test facilities, and test equipment
- 03 Recording devices
- 04 Reliability
- 05 Reprography

15 Military Sciences
- 01 Antisubmarine warfare
- 02 Chemical, biological, and radiological warfare
- 03 Defense
- 03 1 Antimissile defense
- 04 Intelligence
- 05 Logistics
- 06 Nuclear warfare
- 07 Operations, strategy, and tactics

16 Missile Technology
- 01 Missile launching and ground support
- 02 Missile trajectories
- 03 Missile warheads and fuzes
- 04 Missiles
- 04 1 Air and space launched missiles
- 04 2 Surface launched missiles
- 04 3 Underwater launched missiles

17 Navigation, Communications, Detection and Countermeasures
- 01 Acoustic detection
- 02 Communications
- 02 1 Radio communications
- 03 Direction finding
- 04 Electromagnetic and acoustic countermeasures
- 05 Infrared and ultraviolet detection
- 06 Magnetic detection
- 07 Navigation and guidance
- 08 Optical detection
- 09 Radar detection
- 10 Seismic detection

18 Nuclear Science and Technology
- 01 Fusion devices (Thermonuclear)
- 02 Isotopes
- 03 Nuclear explosions
- 04 Nuclear instrumentation
- 05 Nuclear power plants
- 06 Radiation shielding and protection
- 07 Radioactive wastes and fission products
- 08 Radioactivity
- 09 Reactor engineering and operation
- 10 Reactor materials
- 11 Reactor physics
- 12 Reactors (Power)
- 13 Reactors (Non-power)
- 14 SNAP technology

19 Ordnance
- 01 Ammunition, explosives and pyrotechnics
- 02 Bombs
- 03 Combat vehicles
- 04 Explosions, ballistics and armor
- 05 Fire control and bombing systems
- 06 Guns
- 07 Rockets
- 08 Underwater ordnance

20 Physics
- 01 Acoustics
- 02 Crystallography
- 03 Electricity and magnetism
- 04 Fluid mechanics
- 05 Masers and lasers
- 06 Optics
- 07 Particle accelerators
- 08 Particle physics
- 09 Plasma physics
- 10 Quantum theory
- 11 Solid mechanics
- 12 Solid state physics
- 13 Thermodynamics
- 14 Wave propagation

21 Propulsion and Fuels
- 01 Air breathing engines
- 02 Combustion and ignition
- 03 Electric propulsion
- 04 Fuels
- 05 Jet and gas turbine engines
- 06 Nuclear propulsion
- 07 Reciprocating engines
- 08 Rocket motors and engines
- 08 1 Liquid rocket motors
- 08 2 Solid rocket motors
- 09 Rocket propellants
- 09 1 Liquid rocket propellants
- 09 2 Solid rocket propellants

22 Space Technology
- 01 Astronautics
- 02 Spacecraft
- 03 Spacecraft trajectories and reentry
- 04 Spacecraft launch vehicles and ground support

more comprehensive alternative would be the establishment of a form such as the 1498R, as described later in this chapter in the "Expanded Implementation" subsection.

1498R Completion

Once those 1498 forms which deal with logistics-related research have been selected, the data must be transferred from the 1498 to the 1498R/1634R form. Initially, the administrative information section of the 1498R/1634R will be completed by the DLSIE librarian or the administrative staff. At some later point, this step could be performed in an automated fashion.

The narrative information section and research description section will be completed by DLSIE technical information specialists, based on information available on the 1498 forms.

Sponsor Review

After DLSIE has completed all portions of the 1498R/1634R to the degree the information in the 1498 allows, all three portions of the form will be sent to the research sponsor for review. This is an essential and key step in the LORI system process. It is the quality control check. One purpose of this review is to have the sponsor complete any portion(s) of the 1498R/1634R for which there was inadequate information contained in the 1498. The second is to solicit any corrections due to updates in the research effort, incorrect information on the 1498, or incorrect interpretation of the 1498. Once the sponsor completes this review and forwards corrections and/or additions to DLSIE, the 1498R/1634R will be updated.

User Follow-Up for Payoff

The objective of this step is to determine what user payoffs resulted from the research product being implemented. This is a critical step to support the demonstration of positive impacts on manpower and material due to

logistics-oriented research. DLSIE would be responsible for an annual follow-up of projects completed during the preceding several years, and for documenting the ways in which the research results were utilized. During the initial implemental period DLSIE will have to experiment with different methods for follow-up to determine and assess project utilization.

OVERVIEW OF EXPANDED IMPLEMENTATION

To achieve its long-term objectives, the coverage of the LORI system must be expanded. The initial system will have limited use because of its reliance on input data reported at the work unit level, and because current reporting covers only current and previous fiscal years. This problem can be relieved somewhat if the DD 1634 (Research and Development Planning Summary) forms are also used. The DD 1634 forms are used to report planned efforts at the project and task levels. They are not currently included in the DLSIE data base because the requirement to do so is not specified in the present DoDI 7720.13, DoDD 5010.22, and DoDI 5154.19 controlling documents. Future systems should use the 1498R/1634R data form which is suitable in place of both the 1498 and 1634 forms. Also, an attempt should be made to utilize the administrative- and narrative-information sections of the 1498R/1634R throughout the DoD, in areas other than logistics.

If the 1498R/1634R form were to be adopted DoD-wide, then DLSIE would complete only the research description section of the new form, and would send that portion to the sponsor for review and corrections. In that event, the data source (DTIC), and the screening procedure would be essentially the same as outlined above. Specific procedures for user follow-up will have to be defined, during this expanded implementation period, based on the results of the earlier experiments.

COMPATIBILITY WITH RDIS

The approach and data requirements of DLSIE are fundamentally compatible with those of the Research and Data Information System (RDIS) under development at NPRDC. While there are differences, such as different indexing and retrieval techniques for each system, the differences are lessened by the proposed LORI design. Because of the basic similarity, LORI and RDIS could be implemented with extensive use of common software if, in the long run, they were resident on the same computer system or on compatible computer systems.

ACTIVITIES WHICH AFFECT THE LORI DESIGN

There are a number of on-going or planned activities, within OSD and the services, that fall outside the LORI design specification but that could impact LORI development and implementation. These include related information system development efforts, such as the Training & Personnel Technology information system and the NPRDC RDIS; the scheduled DoD analysis of its logistics research planning capability and related delegation of roles and responsibilities; and the development of logistics-related research budget categories. The LORI design must be compatible with these and other related efforts in order to be fully cost-effective, and accepted by the logistics research community.

APPENDIX A

DLSIE EXPERIMENT

In order to evaluate the feasibility of the plan for initial LORI implementation, LMI asked DLSIE to perform a limited trial run as an experiment. In this experiment, two DLSIE personnel completed the narrative information section and the descriptor supplement for selected DD 1498 and DD 1634 forms. This appendix briefly outlines the objectives and the more salient findings of the experiment.

OBJECTIVES

The experiment had three principal objectives:

1. Estimate the time necessary to complete the prototype data structure.
2. Determine the extent to which data needed for the prototype data structure are available from the DD 1498 and DD 1634 forms.
3. Determine what else, if anything, DLSIE needs to begin operating the prototype system.

FINDINGS

Time Requirements Are Reasonable--The average time required to complete the narrative information section was 10 to 15 minutes, the maximum being 20 to 30 minutes and the minimum 3 to 5 minutes. The descriptor supplement consumed about 10 to 15 minutes on the average, with a minimum of 3 to 5 minutes and a maximum of 15 to 20 minutes. The combined average for both parts was about 20 to 30 minutes, or 2 to 3 forms per hour.

Follow-up Is Necessary--Questions about results, application, payoff, prior accomplishments, and the descriptor supplement could generally be answered from the data on the 1498 or 1634. On the other hand, questions

about secondary output products, intermediate accomplishments, and coordination generally could not be answered from information on the 1634 or 1498. DLSIE personnel would have to contact the research sponsor to complete the narrative information section, which would increase the amount of time required.

Definitions Are Needed--One problem the DLSIE personnel experienced was the lack of definitions for the terms used in the descriptor supplement. Without definitions, they felt, the supplement could not be completed consistently from one day to the next, or from one indexer to the next. Therefore, the recommended revision to the DLSIE instruction (DoDI 5154.19 will include the appropriate definitions).

APPENDIX B

PROPOSED REVISION TO DOD INSTRUCTION 5154.19†

SUBJECT: Defense Logistics Studies Information Exchange (DLSIE)

Refs.: *(a) DoD Instruction 5154.19, "Defense Logistics Studies Information Exchange," July 13, 1972 (hereby superseded)
(b) The Armed Services Procurement Regulation established by DoD Directive 4105.30, March 11, 1959

I. PURPOSE AND APPLICABILITY

A. This Instruction establishes the requirement for all Military Departments, Defense Agencies, Unified and Specified Commands, Organization of the Joint Chiefs of Staff, Office of the Secretary of Defense and any Activities under their jurisdiction to use the Defense Logistics Studies Information Exchange (DLSIE) information services which were created by reference (a) and established at Fort Lee, Virginia, prior to commencing any "in-house" or contractor-funded logistics studies.

B. It also assigns responsibilities for the reporting, storage and distribution of logistics studies and related logistics research and management information within the Department of Defense.

C. This Instruction establishes the Department of the Army as the executive agent for the Department of Defense acting under policy guidance of the Assistant Secretary of Defense (Manpower, Reserve Affairs, and Logistics).

D. Reference (a) is hereby superseded and cancelled.

II. SCOPE

The provisions of this Instruction encompass all logistics studies and related documentation containing logistics research, evaluation and management information, including logistics studies performed "in-house," or by contract, grant, or study agreement. The system for collecting, storing, and disseminating logistics research and management information will provide:

A. A standardized bank of information regarding logistics studies performed in-house, on contract, or under grant.

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†This revised instruction is designed to make LORI implementation feasible at DLSIE. The changes are necessary because of the additional functional steps specified for DLSIE. New or changed paragraphs are indicated by *. Throughout, OSD(I&L) has been updated to OASD(MRA&L).

B. A means for avoiding duplication of study efforts, and attendant resources, through the ready access to current information concerning logistics studies and logistics research efforts that are planned, in-process and completed.

C. A basis for exchange of logistics research and management information, both current and historical.

D. A comprehensive collection of completed logistics studies for background research purposes.

E. A means for increased application of logistics studies and logistics research and management information in day-to-day operations, and for visibility toward standardization of logistics systems where appropriate.

F. Increased effectiveness of logistics research and management information flow with other U.S. Government Agencies.

G. Active and continuing acquisition of all logistics studies and related documentation. This includes documents from outside DoD when they are considered pertinent to the logistics management efforts of the DoD.

H. Prompt and well-indexed announcements of currently significant logistics studies and related documentation.

I. In-depth custom bibliographic services about all logistic functional and sub-functional areas.

III. DEFINITIONS

As used in this Instruction, the following definitions apply:

A. Logistics. The science of planning and carrying out the movement and maintenance of forces. In its most comprehensive sense, those aspects of military operation which deal with (1) design and development, acquisition, storage, movement, distribution, maintenance, evacuation, and disposition of materiel; (2) movement, evacuation, and hospitalization of personnel; (3) acquisition or construction, maintenance, operation, and disposition of facilities; and (4) acquisition or furnishing of services.

*B. Logistics Studies. Logistics studies are examinations or investigations of specified subject areas which are assembled in written form and are objective and analytic inquiries directed toward improving or planning logistics management. They include (1) studies of logistics systems undertaken in response to identified logistics management problems; (2) management-type surveys in logistics areas; (3) investigation of new methods, procedures, or techniques in real or simulated logistics environments. (NOTE: Studies of strategy and tactics are excluded from this definition.)

C. Logistics Research and Management Information. Those data pertinent to logistics studies, development of logistics concepts or systems, and improved logistics planning.

D. Sponsoring DoD Activities. The Military Departments, Defense Agencies, Unified and Specified Commands, Organization of the Joint Chiefs of Staff, Office of the Secretary of Defense and any Activities under their jurisdiction which are responsible for initiating or supervising a logistics study program or project whether performed in-house or by contract, grant or study agreement.

E. Users of DLSIE. DoD Components, their contractors and grantees, and other U.S. Government Agencies.

IV. POLICY

A. Resources for logistics studies shall be directed into the most practical channels of inquiry and geared toward solving problems of consequence.

*B. Each sponsoring DoD activity will report the required information to DLSIE as specified in Section V. E. below for each approved logistics study.

C. The maximum practicable interchange of logistics study information will be effected as rapidly as possible throughout the Department of Defense, so as to improve logistics management and avoid unnecessary duplication of logistics study efforts.

D. Adequate control point(s) will be established in each DoD component to assure that the DLSIE bibliographic service has been used, and that study information either does not exist or is inadequate, before funding for a new logistics study is approved.

E. Periodically, DLSIE will query each sponsoring DoD Activity so that it may advise DLSIE when logistics studies are no longer appropriate so as to permit purging of bibliographic files and assure long-term availability of only current or historically useful logistics research and management information.

F. Each DoD component is responsible for development and analysis of logistics studies pertinent to the execution of its mission.

G. DLSIE will effect secondary distribution to Defense Agencies, and will also provide such services on a reimbursable basis to any other Government Agency.

V. AUTHORITY AND RESPONSIBILITIES

A. Under the policy direction of the Assistant Secretary of Defense (MRA&L), the Secretary of the Army is assigned responsibility for:

1. Operational direction and control of the Defense Logistics Studies Information Exchange (DLSIE)

2. Programming, budgeting, funding, accounting and reporting of DLSIE.

B. The Commandant, U.S. Army Logistics Management Center, Fort Lee, Virginia, will provide facilities, administrative services and adequate computer and reproduction equipment to DLSIE in order to permit the execution of the DLSIE mission.

C. The Defense Logistics Studies Information Exchange will:

1. Acquire, store, organize and disseminate information about the following:

a. Logistics studies (planned, in-process and completed).

b. Miscellaneous documents (technical journals, books, official policy, letters and speeches, research papers and any other documentation), the content of which may be pertinent and useful to the planning and improvement of logistics.

2. Maintain a current inventory of all logistics studies (planned, in-process and completed) and related documentation which may be of significance to the research and management of logistics.

3. Maintain the DoD central collection of completed logistics studies and related documentation for historical purposes.

*4. Provide secondary distribution of logistics research and management information (including logistics studies) to Defense Components upon request, and to other Government Agencies upon request, free of charge.

*5. Publish a comprehensive annual bibliography with quarterly supplements of logistic studies and research using formats as specified by OASD(MRA&L) from time to time.

6. Furnish logistics research and studies information upon request in the form of custom and/or annotated bibliographies and Selective Dissemination of Information lists using formats as specified by OASD(MRA&L) from time to time.

*7. Furnish services under the Logistics-Oriented Research Information system in the manner specified by OASD(MRA&L) from time to time.

*D. Each Defense Component will:

*1. Identify sponsored, planned, and in-process logistics studies and research at the work unit summary level through the submission of DD 1498 forms to the Defense Technical Information Center (DTIC) in compliance with DoDI 7720.13.

*2. Identify sponsored, planned, and in-process logistics studies and research at the project and task level through the submission of DD 1634 form to DTIC through OUSD(R&E) in compliance with DoDI 7710.16.

*3. Submit, within 30 days, one copy of each completed logistics study and related documentation which has not been previously reported to DLSIE. Each completed study will be accompanied by an unclassified abstract or summary of results (approximately 150 words) so expressed as to be meaningful to persons who are generally familiar with the subject area.

*4. Within 30 days after completion, submit one copy of each logistics study and related documentation completed after the effective date of this Instruction. Each completed study will be accompanied by an unclassified abstract or summary of results (approximately 150 words) so expressed as to be meaningful to persons who are generally familiar with the subject area.

5. Within 30 days after completion of a logistics study, submit to DLSIE the conclusions and/or recommendations of the study; and within 120 days after completion of a logistics study, submit to DLSIE the Defense Component action on the conclusions and/or recommendations.

6. Provide DLSIE with distribution requirements, for their department or agency, for each of the periodically published documents distributed by the DLSIE (currently the Annual DoD Bibliography of Logistics Studies and Related Documents with supplements).

7. Establish adequate control point(s) to assure the DLSIE bibliographic service has been used and no study exists or inadequate information is available prior to approving and funding a new logistics study.

E. The Defense Technical Information Center will provide DLSIE with the DD 1498 and DD 1634 forms in a manner negotiated with OASD(MRA&L) from time to time.

VI. REPORTS CONTROL SYMBOL

*(To be determined.)

VII. EFFECTIVE DATE AND IMPLEMENTATION

This Instruction is effective immediately. Two copies of implementing regulations shall be forwarded to the OASD(MRA&L) within ninety (90) days.

APPENDIX C

LOGISTICS RESEARCH DESCRIPTOR DEFINITIONS

The following definitions are preliminary, and in some instances they are notional descriptions. They are presented in the order in which they appear in the Logistics Functions section of Table III-1. Where possible, the definitions conform with those in A Compendium of Authenticated Logistics Terms and Definitions, AFIT, 1970; and JCS Pub. 1, Dictionary of Military and Associated Terms, DoD, 1974.

These descriptors are to be used to describe the nature and focus of the research study effort.

ACQUISITION

Initial Support Planning

The process of estimating the logistics resources necessary for the support of a new item (or existing item with an altered configuration or mission) for which logistics resources have not previously been procured.

Life Cycle Cost Analysis

A technique, or application thereof, directed toward the consideration or estimation of all costs of a given alternative.

Reliability/Maintainability

The process of estimating the frequency of system (component) repair (replacement) and the difficulty of such repair (replacement).

Management Structure

The process of establishing lines of authority such that objectives are achieved and responsibilities carried out.

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PROCUREMENT/PRODUCTION

Requirements Determination

The process of estimating the logistics resources necessary for the support of an item.

Contracting Strategy

The process of developing factors and positions to afford maximum support to policies and increase the probability of favorable consequences in negotiating, administering, and terminating legal agreements between the U.S. Government and private industry or other governments.

Scheduling and Delivery

The process of stipulating the required point in time that an item of material must be available and capable of specific functions.

Industrial Base

Any process aimed at enhancing the production capability or capacity for manufacture of items to meet materiel needs.

Pricing

The process of determining the proper monetary amount to be exchanged for services or materiel.

Product/Contractor Performance Evaluation

The process of determining the value or worth of materiel or services and whether or not the goods or services satisfy legal obligations.

SUPPLY AND DISTRIBUTION

Demand Forecasting

The process of estimating the future need for an item or service.

Inventory Management

That process which controls the input, availability and disposal of materiel.

Supply Performance

Any process which evaluates or attempts to improve the degree to which materiel availability matches demand.

MAINTENANCE

Concepts

The process of developing a general scheme of maintenance operation: Any process undertaken to retain materiel in a serviceable condition or to restore it to serviceability. It includes inspection, testing, servicing, classification as to serviceability, repair, rebuilding, and reclamation. Also included is routine recurring work required to keep a facility (plant, building, structure, ground facility, utility system, or other real property) in such condition that it may be continuously utilized, at its original or designed capacity and efficiency for its intended purpose.

Management

The processes directly related to planning, organizing, directing, coordinating, controlling, and evaluation of the use of men, material, and facilities to perform maintenance.

Performance

The process of meeting maintenance requirements.

LOGISTICS RESOURCES

Weapon System

A weapon and those components required for its operation.

Major System

A major or primary assembly of resources and procedures united and regulated by interaction or interdependence to accomplish set specific objectives. Weapon systems will not be classified in this category.

Equipments

Machinery, tools, utensils, or similar items which form a unit which independently or in itself fulfills or accomplishes some function.

Components

An assembly or combination of parts which when combined with other components will form a piece of equipment.

Facilities

A physical plant, such as real estate and improvements thereto, including buildings and equipment, which provides the means for assisting or making easier the performance of a function, e.g., base arsenal, factory. Also, any part or adjunct of a physical plant, or any item of equipment which is an operating entity and which contributes or can contribute to the execution of a function by providing some specific type of physical assistance.

Manpower and Personnel

Human resources or requirements.

Funds

Monetary resources or requirements.

Technical Documentation

Those repair manuals, flow diagrams, troubleshooting charts and similar items which are used for guidance during maintenance.

Fuels and Energy

Any substance which is used in heating or power generation.

LOGISTICS MANAGEMENT

Planning/Management Models

Those models (representations of some entity) used to establish and/or obtain objectives.

Operation/Readiness Factors

Management tools designed to analyze a system's ability to perform its missions or functions.

Resources Available/Influencing Factors

A procedure used to evaluate or optimize the degree to which logistics resources will be available under varying conditions.

Financial/Cost Analysis

A systematic procedure for estimating the aggregate cost of a system and for comparing the costs of alternative systems in order to determine the relative effectiveness and economy of the alternatives.

Performance Measures/Effectiveness Evaluation

A procedure for determining the degree to which established objectives have been obtained by a system.

Automated Management Approaches

Procedures which use computer application to solve management problems.

Management Evaluation

A procedure for determining the degree to which management is helping or hindering system development, deployment or mission effectiveness.

Policy Analysis

Analysis that generates and presents information in such a way to improve the basis for decision makers to exercise their judgment on basic organization, procedure, resource and support concepts.

Programming/Planning/Budgeting

The process of translating planned military force requirements into time-phased resource requirements to support those requirements.

Financial Cost Reporting

A procedure for documenting the actual costs that have been incurred through a project or program.

LOGISTICS TECHNOLOGY AREAS

Automatic Test Equipment

A device that checks two or more signals in sequence without the intervention of a technician. The test usually stops when the first out-of-tolerance signal is detected.

Energy

Technology oriented toward the generation of power (electrical or mechanical).

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This study seeks to provide the planners and managers of DoD's logistics-oriented research program with the necessary tools to assist them in decision-making.

Presented in this report is a prototype design for a Logistics-Oriented Research Information (LORI) system. The LORI system will give OSD, Service headquarters, and the DoD logistics community the

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ability to store, retrieve and report logistics studies and research by a variety of characteristics, including performing organization, sponsoring organization, technical approach, schedule, status, functional area, logistics issue, payoff, and cost.

The LORI design builds on and expands the existing capabilities of both the Defense Technical Information Center and the Defense Logistics Studies Information Exchange.

The report identifies the need for logistics research information and describes the LORI system, including suggested data collection procedures and an implementation plan. The data collection section contains a revised, combined DD1498-DD1634 form that could be used to gather all the information needed for the LORI system. The report also describes the current DLSIE system and capabilities.

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